

LOMBARD

Pound in your pocket, again

BY SAMUEL BRITTON

ACCORDING to the official Whitehall view, frequently given in Parliamentary Answers, a 10 per cent devaluation of sterling leads to a 24 per cent increase in domestic prices. This is the foundation for the famous belief that the pound in your pocket does not fall as far as the external value of sterling in any depreciation. It is also the foundation for the belief that the exchange rate should be managed to give British goods a competitive edge.

Table with 3 columns: Impact of 1 per cent devaluation in U.K., On Consumer Prices, On Relative Price of On Traded Goods. Rows include Simple case, Assuming wage indexation, and Source: 'Optica Report,' P.20 EEC Commission, February 10, 1977.

monetarists maintain that a 10 per cent sterling devaluation leads eventually to something like a 10 per cent increase in British prices. It does not follow that prices and profits are unimportant in export markets or that policy must concentrate on 'non-price competitiveness.'

The impact

It is far from true that real wages can fall or rise because of local inflationary pressure in the UK. The rise in unemployment is a realisation that excessive real wages were pricing members of it out of jobs. The EEC devaluations also show that the impact of a 10 per cent devaluation is to raise profit margins on traded goods by 2.2 per cent. But this is unlikely to set unless profit margins were unusually depressed to the first place and devaluation provided a tactical opportunity to reduce the share of wages. But in all other circumstances, and in the context of a continuing depreciation, wages would quite soon rise to eliminate the profit boost. Even if unions did not exist competition among employers would do this.

Raises prices

The EEC estimates are, like the British Treasury's, based on calculations of the direct effect of exchange rates on costs via import prices. The main difference is that while the British calculation is confined to imports, and the import content of domestic products, the EEC ones assume that all tradeable goods are affected, under the influence of market forces, and in particular import substitutes. But even on that basis, which assumes that non-tradeable goods are unaffected, a 10 per cent devaluation raises prices by 4.7 per cent.

RACING BY DOMINIC WIGAN

Ladbroke's Leisure can provide an apt winner

Ladbroke's Leisure, which has made only three appearances to date. A promising third behind Celtic Pleasure and Lucky Runner in a maiden event at Wolverhampton early last month, Ben Hambro's gelding ran somewhat disappointingly. It faded to fourth in a similar event at Nottingham, before springing a surprise with a 25-1 victory in Bath's West Littleton Slakes.

- Ladbroke's Leisure***
4.00-Ladbroke's Leisure***
4.30-Swallow Prince**

Roll Me Over in a modest event at Catterick six days ago; while the third and fourth, Lord of Misrule and Tobique, have also both gained compensation with comfortable successes. Lord of Misrule won his race when defeating Rapid by two lengths in a Brighton handicap and Tobique had a 11-length victory over Tanaka at Salisbury a week ago.

SALEROOM BY ANTONY THORNCROFT

£2,400 for Lambeth Delft

AFTER excitement at Mentmore and Christie's first auctions in New York the London salerooms returned to normal yesterday with modest sales. At Christie's English pottery and Wedgwood realised £38,118 and Japanese swords and sword fittings £24,488. Lambeth Delft pottery, a rare 18th-century 'Delftware' double the top estimate. A Wedgwood Basal model of Hogarth's dog, Trump, went to the London dealer David Newton for £1,900. The same buyer paid £1,900 for a large Wedgwood creamware 'armorial' dinner service.

TV film on Darwin soon

FILMING of a new six-part dramatic documentary series for BBC2 called The Voyage of Charles Darwin will begin in mid-June. The programmes are based on the original journals and letters of Darwin, himself, and of Robert Fitzroy, who was captain of HMS Beagle during his historic five-year voyage round the world.

WINE

Champagne—is it too expensive?

EDMUND PENNING-ROWSELL

THE SHORT ANSWER to this question is that champagne has not really been thought expensive; always before the last World War even before the last World War when it retailed at about 6s 6d a bottle, and probably vintage at that. For champagne is above all a wine of celebration, and that usually means spending a little extra.

One might not think that Mrs. Thatcher, leader of the British Tory party, and the French Communist party, had much in common. Yet when both parties made substantial gains in the recent local elections in their own countries, each leader was reported publicly as drinking champagne. In France at least champagne is not politically coloured.

When we describe commodities or other things we buy as expensive, we often mean, I suggest, that they are unreasonably dear. Coffee, for example, at current prices, is this the case with champagne?

It is, of course, an exceptionally costly wine to make. Yet, when it is good, none of its rivals, even when made in the same way, the methode champenoise, can equal it in aroma, flavour and elegance. Then, champagne grapes are among the most expensive in the world, and it takes about 14 kilos to produce one bottle of champagne, at a price per kilo averaging not less than 75p, and more for some of the top quality wines. So that is a prime cost of over £1 before production starts.

Minimum

Then there is the period of secondary fermentation in bottle, a prolonged maturation, and the expensive, highly skilled manual operation of the remuage, in which the sediment is gradually shaken down on to the cork. Finally the wine is disgorged of its sediment and the dosage, which determines the relative dryness or sweetness, is added, and the bottle dressed and packed for despatch.

Although, under French regulations a bottle of non-vintage champagne must have a minimum of one year's bottle age, and a vintage one three years, all the leading brands have without an exception a minimum of three years. Some firms give even longer periods, and the average throughout Champagne is three years.

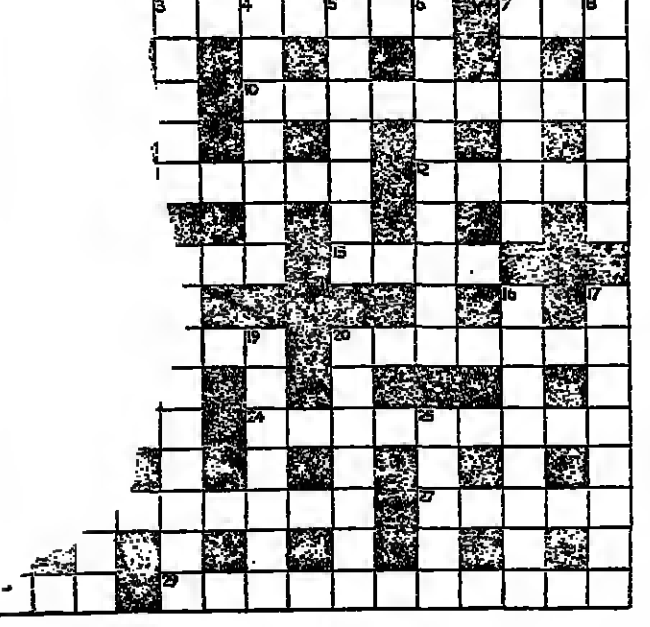
Nevertheless champagne cannot be compared with those of other fine quality French goods at present they are good for money. For example, already much-in-demand rank classed-growth clarets

APPOINTMENTS

Mr. J. Campbell Fraser, managing director, is to be succeeded by Mr. D. L. HOLDINGS. He will succeed Mr. V. E. Thomas as chairman of the Board of NEWS INTERNATIONAL. Mr. P. R. Burrows and Sons from July 1. Ekheid, managing director, of WESTMINSTER PRESS. Mr. Robert Norman has been appointed to the Board of RECKITT AND COLMAN AUSTRALIA. He recently retired as chief general manager of the Bank of New South Wales but remained on the Board of the bank. Sir William Harris has joined the Board of PEACOCK PROPERTY CORPORATION. Sir William is chairman of a number of private companies concerned with industrial and residential development. Mr. G. E. Gamble has been appointed a deputy secretary in the TREASURY SOLICITOR'S department from to-morrow in succession to Mr. T. C. Hetherington. Mr. A. D. Hemmingsway and Mr. G. G. Northcote have been appointed directors of the MOUNT PLYMOUTH AND RAILWAY COMPANY in place of Mr. J. L. Lantz and Mr. B. C. Ryan, who have resigned. Mr. Maxwell J. Sumner has become sales director of PLYSUS CONTAINERS. Mr. J. Estaff is retiring. Mr. Derek Anderson has been re-elected president of the COCOA CHOCOLATE AND CONFECTIONERY ALLIANCE for 1977. Mr. Robert Wadsworth has become vice-president in place of Mr. Albert Norton and Mr. Ted Schofield is now honorary treasurer, succeeding Mr. Gordon Johnson. Mr. D. McCann Fullos has been appointed deputy chairman of the EAST MIDLANDS ELECTRICITY OF COMMERCE in succession to the Earl of Linlithgow, who becomes vice-president. Mr. R. W. Smith has been appointed managing director of the parent concern, WGL. Mr. Alan Smith has been appointed non-executive deputy chairman of HENRY BATH & SON. Mr. Michael P. Morrison becomes local director (London)

Table with 2 columns: Time and Program Name. Includes 5.30 Nationwide (London and South-East only), 6.20 Nationwide, 6.50 Jubilee, 7.40 Sixes, 8.10 2 Cars, 9.00 News, 9.25 Last of the Summer Wine, 9.55 Soccer Special: England v Wales, 10.55 10-night, 11.30 Teletext Now-The Lonliest Job, All Regions as BBC-1 except at the following times: Wales-5.55-6.20 p.m. Wales Today, 6.50 Heddiw, 7.10-7.40 Ayr

WORD PUZZLE No. 3,394



- ACROSS: 1 One who anticipates woodman will admit everything (11), 2 Material to get on to, to understand (6), 3 The beginning of electrical phases (5), 4 Where one may see the vicar hurrying paper outside (9), 5 Keep Henry in agreement—at once (8), 6 Small in a way but charming (5), 7 Crave to change and exaggerate the performance (7), 8 Doctor going to work needs a drink (4), 9 Southern pitch for leading player (4), 10 Crumpet and fish with bad service (7), 11 Humiliate with just one blow (5), 12 Influence of personality that is an attraction (9), 13 Record runs with English speech (9), 14 Drink about four to become alert (5), 15 See 7 across, 16 Choose to had poetry for printing (11), 17 Low arch in copper (4-4), 18 Provided copy about wine to editor (8), 19 Cut left in window-frame (8), 20 Assign to a soft objective (7), 21 Enticed to go round church but stumbled (7)

SOLUTION TO PUZZLE

ACROSS: 1. WOODMAN, 2. MATERIAL, 3. BEGINNING, 4. VICAR, 5. HENRY, 6. SMALL, 7. CRAVE, 8. DOCTOR, 9. SOUTHERN, 10. LEADER, 11. CRUMPET, 12. HUMILIATE, 13. INFLUENCE, 14. RECORD, 15. DRINK, 16. CHOOSE, 17. LOW, 18. PROVIDED, 19. CUT, 20. ASSIGN, 21. ENTICED

Table with 2 columns: Time and Program Name. 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Lively death throes

by NIGEL ANDREWS

Order, some one said in one of the wittier movie lines of the Cannes Festival, is the virtue of mediocre minds. If that maxim holds good for film festivals, there was nothing remotely mediocre about Cannes 1977. Profusion and confusion reigned from the very beginning, and film distributors, film producers and other interested parties could thank the inclement heavens, and the tightened belts of the festival organisers, that neither the weather nor the exceptionally frugal social calendar offered any serious competition to the exhausting schedule of filmgoing.

If the cinema is dying, as widely rumoured of late, it is certainly treating us to some lively death throes in the meantime. I commented in my first report on the heady internationalism of this year's Festival—every country from Kuwait to Venezuela was represented—and no less inspiring was the range of subjects. There have been

aptnoise and anti-pollution demonstrations against it, and it can thus be seen as yet another dead and weighty stratospheric slung around the neck of the new Japan by the old.

The film has been a tremendous success in Japan and I am not surprised. For one thing it carries an immediate pedigree: scriptwriter Tetsuya Tamura worked on several of Oshima's films, and Hasegawa himself, whose first film as director this is was formerly assistant to Shobu Imamura. For another, it boasts a richness of imagery and a vivacity of language that are at times almost Shakespearean. The murder scenes are astonishing—a dizzying, blood-drenched dance of violence followed by the quiet horror of dawning guilt—and the film's strength throughout is that it visceral level than on a machismo and sleek exploitation which set out to find fortune and freedom in the West. Herzog's America is a potentially hilarious melting-pot of backwoods, visceral and sleek exploitation—a world of mobile homes, tending farmers and dime-in-the-slot dancing chickens—but the comic delight he takes in it is

Huppert's performance in the Swiss film *The Locomotive* I have already mentioned, but no less eye-opening was the acting of Sophia Loren as a down-trodden housewife in Ettore Scola's *A Special Day*, and of Sissy Spacek and Shelley Duvall (who won the Best Actress award) in Robert Altman's otherwise patchy *Three Women*.

Altman's film is a *trompe l'oeil* trip through modern California: a film that begins marvelously, sags in the middle, rallies, then collapses altogether. It tells how the lives and identities of three women merge in a sleepy, sun-baked world where time stands still and where man is the common enemy. It is in the hallucinatory style of Altman's earlier *Images*, but here Altman's imagination has bitten off more than it can chew, and the film ends by choking on its indigestibly rich metaphors and fantasy images. But the performances from Sissy Spacek and Duvall are very fine.

Old Vic Hamlet

Prospect's new Hamlet seems to have begun as a commendably simple one, without many gimmicks, and then to have had all its emotions slightly hoisted as if for an audience cooing everything made doubly clear. Old Hamlet needs may find this occasionally tiresome, but oow and then it throws beams of unexpected light on familiar scenes with most rewarding effect.

A good example comes in the first scene in which Hamlet appears. The Prince squats sulkily in a corner, ostentatiously paying no attention to the sensible things the King is saying. Suddenly the King gives a great clap on the table in front of him, and seeing that this has not attracted his stepson's attention, he walks over and glares at him. This places the two most accurately into their relationship. But a moment later when Hamlet goes to the table and thrusts his application to return to Wittenberg to the top of the King's file, and when he shouts "Seems madam!" at the Queen as if he were addressing the Court, I felt a touch of excess.



Derek Jacobi and Barbara Jefford

Hamlet is played by Derek Jacobi. He maintains his madness longer than is fashionable, even sitting down on the ground when he is being chased after Polonius's death, but gives a nice, consistent performance of a character that has clearly been thought through deeply. It is, though, most of all, who exaggerates the peaks and troughs of feeling so much.

One of the evening's gimmicks is to have Hamlet speak "To be or not to be" to Ophelia, toying with her while she, Mr. Jacobi speaks it as if asleep, but Ophelia's presence there is fatal, even though she is neatly played by Suzanne Bertish in a cool, intelligent maid that is quite fresh. Another gimmick is to start with a parade of the four chief characters, and this almost ruins the marvellous first scene. Queen, looking young enough to

justify her second marriage, but outstandingly good that the play not sounding passionate enough, almost revolves about him rather than Hamlet. He is eternally forward performance by John Rowlands, thus revealing what a dull Roman emperor. His simulated speaking in all the parts in indifference at the play is so telligent; there was hardly a beautifully suggested that I emphasise that I didn't agree with, hardly looked at the Players, my save in extent.

The play is done on a permanent set that serves pretty well for everything from battlements to throne-room with its tall grey columns; the designer is Robin Archer.



Shelley Duvall (back) with Sissy Spacek in *Three Women*

times when a critic could pick and choose from the festival and pull out a consistent thematic thread: revolution, or feminism, or pollution. This year it was easier to speak of the themes that did not predominate. There was less political tub-thumping than of yore; less sex; less avant-garde, experimental or "non-narrative" cinema.

Some of these diminutions were cause for regret. Who, for example, has been cleaning up the film market? This event is usually rife with films rejecting in such titles as *Scrubland* and *The Snow White* and the *Seven* film functions simply as a *Perverts*, which provide critics and festivalgoers with some welcome late-night diversion. This year someone has evidently come in with a new broom and swept all of it or most of it away. Are even film festivals not safe from the long arm and interfering scissors of the censor?

On the political front, however, the news is nothing but good. In the past few years, we have seen ourselves described as "weapons in the struggle" or Narita airport. Built several years ago, this is the airport that bourgeois oppression. Now, carefully, only every fourth or

several rivals. Bunched up and near lengths behind were the German films, which didn't have either the class or the stamina of previous years, but which were still the liveliest national entry taken as a group.

Running in the red, white and black colours with swastika motifs were Ulli Lommel's *Adolf* and Marlene and Hans Jürgen Syberberg's *Hitler*. Lommel's film is essentially an 80-minute *Waldville* side, mischievously speculating on what might have happened if the Führer had succeeded in wooing his beloved Marlene. Dietrich back to Germany. Would he have chewed the carpet in servile adoption, as the film likes to imagine, and shared with her all his empire-building secrets? Miss Dietrich, we understand, is not at all amused by reports of the film and has been busy getting her lawyers into harness. But the film is surely too much of a comic squib, too self-evidently—and enjoyably—absurd to cause its real-life models serious offence?

We also saw an hour of Syberberg's marathon portrait of Hitler. When completed, the film will last six hours, but the director chose to honour the

For the rest of the festival's varied offerings, a list of honourable mentions must suffice. Agnes Varda's *L'Une Chante, L'Autre Pas* chronicles the lives and loves of two French girls who set out to find fortune and freedom in the West. Herzog's America is a potentially hilarious melting-pot of backwoods, visceral and sleek exploitation—a world of mobile homes, tending farmers and dime-in-the-slot dancing chickens—but the comic delight he takes in it is

sadly fitful. The script looks as if it was made up as the film went along, and the result is a languid, facile, disappointingly shapeless work.

Wenders' *The American Friend* is taken from a novel by Patricia Highsmith, when Highsmith will chiefly know as the source of Hitchcock's *Strangers on a Train*. In Hitchcock's hands, Miss Highsmith's world of chance meetings and sinister friendships were triumphantly realised. But Wenders is no Hitchcock and here, alas, he is no Wenders either. The delicate tragicomic contours of films like *Alice in the Cities* and *Kings of the Road* are here steamrollered by a thriller plot that is so busily incomprehensible that I couldn't give you a summary of it, even had I the space to try. Whatever the film probes, its subject with a merciless eye, and a witty one, and some British distributor should lose no time in snuffing it up.

Talking of good performances: most of these came this year from the women: a refreshing and salutary change. Isabelle

Elizabeth Hall

I Musici by NICHOLAS KENYON

Not every chamber orchestra has the good fortune to preserve its collective style, without being disturbed by changes of personnel, and without becoming stale, over such a long period as 25 years. But I Musici has done just that. Their leader, and soloist in Vivaldi's "Seasons" ignored it—and had to compete familiar from their famous recording of those concertos—but Pina Carmirelli, whose solid, thick, resonant sound matched well the pre-determined character of their performance.

The sustained legato playing Miss Garatti did gain the lime of the eleven strings created a splendidly homogeneous sound, and indeed rendered somewhat porary of Haydn, and Mozart, Giovanni Paisiello. It was clear, I happened all 100 (even without the programme, rarely,



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Fischer Fine Art Henry Moore photographed

by WILLIAM PACKER

One of the minor pleasures of a Henry Moore exhibition at Orange: in Paris, is the all set of photographs by Fischer Fine Art showing important aspects of Moore's work in permanent in various parts of the world. The photos are beautiful enough in their own right, but they also to the point, fundamental to understanding of Moore and work he has been doing for 30 years, that the sculptures into its own in the air.

David Finn, an American businessman, took it upon himself to if possible every major work by Moore that sits out in the open and the task provided a truly global, taking him to America, very thoroughly

around Europe, and beyond, to the Middle East, to Australia and Japan. The visual dossier he has compiled, amounting to a comprehensive survey of each piece, exploring not only its formal qualities in great detail but also its relationship to the site and its response to its influence, combine in an art-historical document of considerable importance.

The same sculpture hurls up in different places, and its character undergoes a subtle modification; for place exerts a powerful if insidious effect upon the sensibility, and a wild Nature intrudes too much, then the place we last saw in a formal garden or a town square.

Thames and Hudson is now publishing Mr. Finn's photographs as a book: *Henry Moore—Sculpture and Environment*, with a foreword by Lord Clark, and commentaries by Henry Moore himself, to accompany the 495 plates. At £30 it might make the ordinary coffee table groan a bit, but it is a fine hook and well worth searching out.

David Finn's text is enthusiastic, a shade fulsome at times, but useful and straightforward. When Moore's comments are fascinating, ranging from the technical to the personal, but always focusing, an insistent priority, upon his works. If

cell Room Aulos Ensemble by MAX LOPPERT

Leeds-based Aulos Ensemble made its London debut on Sunday with a programme of 20th century music that provided a cause for gratitude. Directed and spoken introductions by Philip Wilby (remember the moment) London promoters seem not to), the Drosi geistliche Volksop. 17, with Jean Knibbs as a confident, pure-toned, only slightly short on definition, were marked by virtuosic high polish and corporate sympathy, ity and musical understanding.

What was very good, too, to find such a live, rewarding group ship turned to the benefit of the McCabe, Birtwistle ch works in the first

Chabrol film to open new London cinema

Artificial Eye Film Company's new cinema, the Camden Plaza (formerly Plaza) at 211 Camden High Street, N.W.1 (opposite Camden Town Underground Station) will open on Thursday, June 9, completely refurbished with 240 seats.

It opens with a new film by Claude Chabrol *Une Part de Plaisir* (Pleasure Game).

Guildford Philharmonic's role in the South-East to be discussed

The Guildford Philharmonic Orchestra has been adopted by the South East Arts Association as the regional orchestra of the South-East. With a view to seeing how the orchestra can best fulfil this role in the region, a number of people are being invited to attend the Guildford Philharmonic Orchestra's Silver Jubilee concert in the Civic Hall on Saturday, June 4.

An informal discussion will take place at about 6.15 p.m. at which the orchestra's director of music, Vernon Randle, members of the orchestra, concert promoters in the region, representatives of the South East Arts music advisory panel, and several of the South East Music Trust's patrons, etc., will be present.

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GILBERT FARR GALLERY, 225 King's Road, Chelsea, S.W.3. Patricia Allen, Irina Polonsky, and others.

MANDELBOURG, 3, Albemarle St., W.1. R. S. Kitaj, Richard Long, and others.

SMELL GALLERY, 40, Albemarle Street, W.1. Fine 4th and 5th century Roman and Byzantine mosaics.

THE WALL GALLERY, The Wall, S.W.1. Paintings and drawings by J. M. W. Turner, etc.

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LEGAL NOTICES

No. 00115 of 1977. In the High Court of Justice, Chancery Division, Companies Court, in the Matter of TRULOCK SERVICES (CONTRACTS) LTD. (INCORPORATED IN THE MEXICO) and in the Matter of The Companies Act, 1948.

NOTICE IS HEREBY GIVEN that a Petition for the Winding up of the above-named Company by the High Court of Justice was on the 23rd day of May 1977, presented to the said Court by CITY ELECTRICAL FACTORS LIMITED whose Registered Office is situate at 1 Station Road, Kenilworth in the County of West Midlands.

NOTICE IS HEREBY GIVEN that a Petition for the Winding up of the above-named Company by the High Court of Justice was on the 18th day of May 1977, presented to the said Court by LANGCASTER CARPETS LIMITED whose Registered Office is situate at West Street, Denton, Manchester, M30 5ST, and that the said Petition is directed to be heard before the Court sitting at the Royal Courts of Justice, Strand, London, W.C.2A 2LL, on the 4th day of July 1977, and any creditor or contributory of the said Company desirous to support or oppose the making of an Order on the said Petition may appear at the time of hearing, in person or by his counsel, for that purpose, and a copy of the Petition will be furnished by the undersigned to any creditor or contributory of the said Company requiring such copy on payment of the regulated charge for the same.

HERBERT OPPENHEIMER, NATION & LINDY, 21, Copthall Avenue, London, E.C.3. Tel: 71874/4222. Solicitors for the Petitioner.

NOTE—Any person who intends to appear on the hearing of the said Petition must serve on, or send by post to, the above-named notice in writing of his intention so to do. The notice must state the name and address of the person, or, if a firm, the name and address of the firm and must be signed by the person or firm, or his or their solicitor (if any) and must be served on, or sent by post to, the undersigned, not later than four o'clock in the afternoon of the 1st day of July 1977.

No. 00102 of 1977. In the High Court of Justice, Chancery Division, Companies Court, in the Matter of BEAUTYRE LIMITED and in the Matter of The Companies Act, 1948.

NOTICE IS HEREBY GIVEN that a Petition for the Winding up of the above-named Company by the High Court of Justice was on the 18th day of May 1977, presented to the said Court by LANGCASTER CARPETS LIMITED whose Registered Office is situate at West Street, Denton, Manchester, M30 5ST, and that the said Petition is directed to be heard before the Court sitting at the Royal Courts of Justice, Strand, London, W.C.2A 2LL, on the 4th day of July 1977, and any creditor or contributory of the said Company desirous to support or oppose the making of an Order on the said Petition may appear at the time of hearing, in person or by his counsel, for that purpose, and a copy of the Petition will be furnished by the undersigned to any creditor or contributory of the said Company requiring such copy on payment of the regulated charge for the same.

HERBERT OPPENHEIMER, NATION & LINDY, 21, Copthall Avenue, London, E.C.3. Tel: 71874/4222. Solicitors for the Petitioner.

NOTE—Any person who intends to appear on the hearing of the said Petition must serve on, or send by post to, the above-named notice in writing of his intention so to do. The notice must state the name and address of the person, or, if a firm, the name and address of the firm and must be signed by the person or firm, or his or their solicitor (if any) and must be served on, or sent by post to, the undersigned, not later than four o'clock in the afternoon of the 3rd day of June 1977.

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EUROPEAN NEWS

Brezhnev attack on NATO plan to boost arms spending

BY DAVID SATTER MOSCOW, May 30. SOVIET PARTY leader Mr. Leonid Brezhnev said tonight that the recent meeting of NATO Defence Ministers had justified increased military appropriation on the basis of "absolutely false estimates" of the policy mapped by the Soviet Union and other Warsaw Pact countries. Mr. Brezhnev said NATO leaders called for the planning of the arms race for years to come and the consolidation of the Atlantic bloc's offensive potential on the basis of estimates that "deceived the public". He made his remark in the course of a general review of the world situation at a Kremlin dinner in honour of Bulgarian Communist leader Todor Zhivkov, Soviet president Nikolai Podgorny, who was recently dropped from the ruling Politburo, was not present at the event for Mr. Zhivkov, an apparent indication that he is no longer fulfilling the duties of his state post. During his speech, Mr. Brezhnev criticised "certain elements" in West Germany for attempting to aggravate world tension by "de facto correction" of the Four Power agreement on the status of the city. He also said that the forthcoming Belgrade conference, at which fulfilment of the 1975 Helsinki accords will be reviewed, should strengthen peace by throwing "a bridge into tomorrow". Mr. Brezhnev added in his first public reference to China since the end of the lull in Soviet anti-Chinese propaganda early this month, that there are forces in China trying to drive Soviet-Chinese relations into an impasse and if possible, aggravate them further. UPI reports from Brunswick, Germany, that President Carter responded mildly to-day to Mr. Brezhnev's statement that the Soviet-U.S. arms limitation talks are not going well. He said U.S. negotiators will be "very persistent" without being in a "hurry" about signing an agreement. Editorial comment, Page 16

E. Germany-Poland pact

BY LESLIE COLLITT EAST BERLIN, May 30. THE LEADERS of East Germany and Poland have signed a new 25-year friendship and mutual assistance treaty here that drops the reference to possible German reunification contained in their last treaty signed ten years ago. The new pact pledges the two countries to come to each other's aid in the event of an armed attack on either of them. Starting with the new friendship treaty with the Soviet Union in October, 1975, East Germany has had to renew its bilateral treaties with its other allies to expunge the remnants of its pre-1967 policy of eventual German reunification under Socialist auspices. The treaty with the Soviet Union also contains the pledge to regard an attack on either of the countries "by any state or group of states" as an attack on the treaty partner. East European sources here note that the defence clause has been included in the treaty at the insistence of the Soviet Union. In the event that any one member country of the Warsaw Pact might decide to withdraw from the military alliance, as is theoretically possible, the bilateral friendship treaties to expunge the remnants of its pre-1967 policy of eventual German reunification under Socialist auspices.

THE EUROPEAN COURT Of chickens and skim milk

BY A. H. HERMANN, LEGAL CORRESPONDENT A MUCH disliked and now almost defunct EEC regulation under which chicken farmers and pig farmers could not be supplied with vegetable protein feeding stuffs unless they also bought a certain quantity of much more expensive skimmed milk powder may yet centre some lasting good. It may lead to the institution of judicial review of such measures if the European Court will use the opportunity presented to it by ten complaints from farmers who were hurt by this regulation and contest its legality. The proceedings have reached the stage of oral hearings. Four hearings have been held so far. One hearing was concerned with the cases (Nos. 83 and 94/76 and 4 and 15/77) of four German chicken farmers against the EEC Council and the EEC Commission. The farmers claim damages amounting to DM243,828 (about £80,000) for loss sustained because Regulation 563/76 introduced obligatory purchase of dry milk powder as an additive to vegetable protein feeding stuffs. The other three hearings were concerned with a further six cases referred to Luxembourg by German courts (Nos. 114, 119 and 120/76) and Dutch courts (No. 116/76), asking whether Regulation 563/76 should be considered valid and binding. The arguments follow the same pattern, so much so, that they seem to have come from the same pen. The defence of the contested milk-powder regulation is also identical in all cases, and the Court will no doubt produce four identical judgments. It probably could still, but could also seize the opportunity for yet another of its bold moves towards the integration of the Community, as it has done more than once in the past. A bold, even revolutionary step, could be taken by applying to agricultural decisions the same test the Court applies in competition matters, where it requires conformity with the aims of the EEC Treaty. Regulation 563/76 "concerning obligatory purchase of skimmed milk powder held by intervention authorities and earmarked for animal feeding" was adopted by the Council on March 15, 1977, on the basis of a proposal submitted by the Commission. To comply, the payment of subsidies for certain vegetable feeds—rapeseed and soya—for example—were made dependent on the production of a certain quantity of skimmed milk powder made unfit for human consumption, had been purchased from farmers who were hurt by this regulation and contest its legality. The simplest explanation is that the victim, for once, was not the consumer, but a vociferous sector of the farming community. The chicken farmers and the pig farmers felt they were being made to pay the bill for the dairy farmers, and they did not like it. They now argue before the European Court that the measure not only is discriminatory, unreasonable, unfit to achieve the aims pursued and formally unfit because the grounds for adoption were not properly stated, but also that the Commission and the Council exceeded their powers and violated the EEC Treaty. The introduction of obligatory procurement, the chicken farmers say, is quite contrary to the basic Treaty concept for agriculture which is regulation of the market by means of price interventions. But more specifically, they submitted, the Regulation cannot be reconciled with the fundamental rule of Article 39(1) of the Treaty which reads in part: "The objectives of the common agricultural policy shall be: (a) To increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour. . . . Flow can rationalisation be achieved, the plaintiffs ask, if the Commission and Council by intervention prices and subsidies first stimulate the production of milk surpluses, and then force farmers to feed this surplus protein to chickens, instead of the vegetable protein feeds which chickens prefer and of which there is an adequate supply? The Commission's aim of the EEC Commission in proposing and adopting this Regulation was not to ensure a greater use of a valuable source of protein in the feeding of farm animals," as asserted in its preamble, but simply to get rid of 400,000 tons of skimmed milk powder. It succeeded with 200,000 tons only, but then so the reaction was quite extraordinary in view of the commission's calculation that the measure increased the cost of chicken feed by only 2.81 per cent, and of pig feed by a mere 1.34 per cent. The intensity of the protest can perhaps be explained by the fact that in absolute figures the burden imposed on a kind of retro-active surcharge on contracts already concluded.

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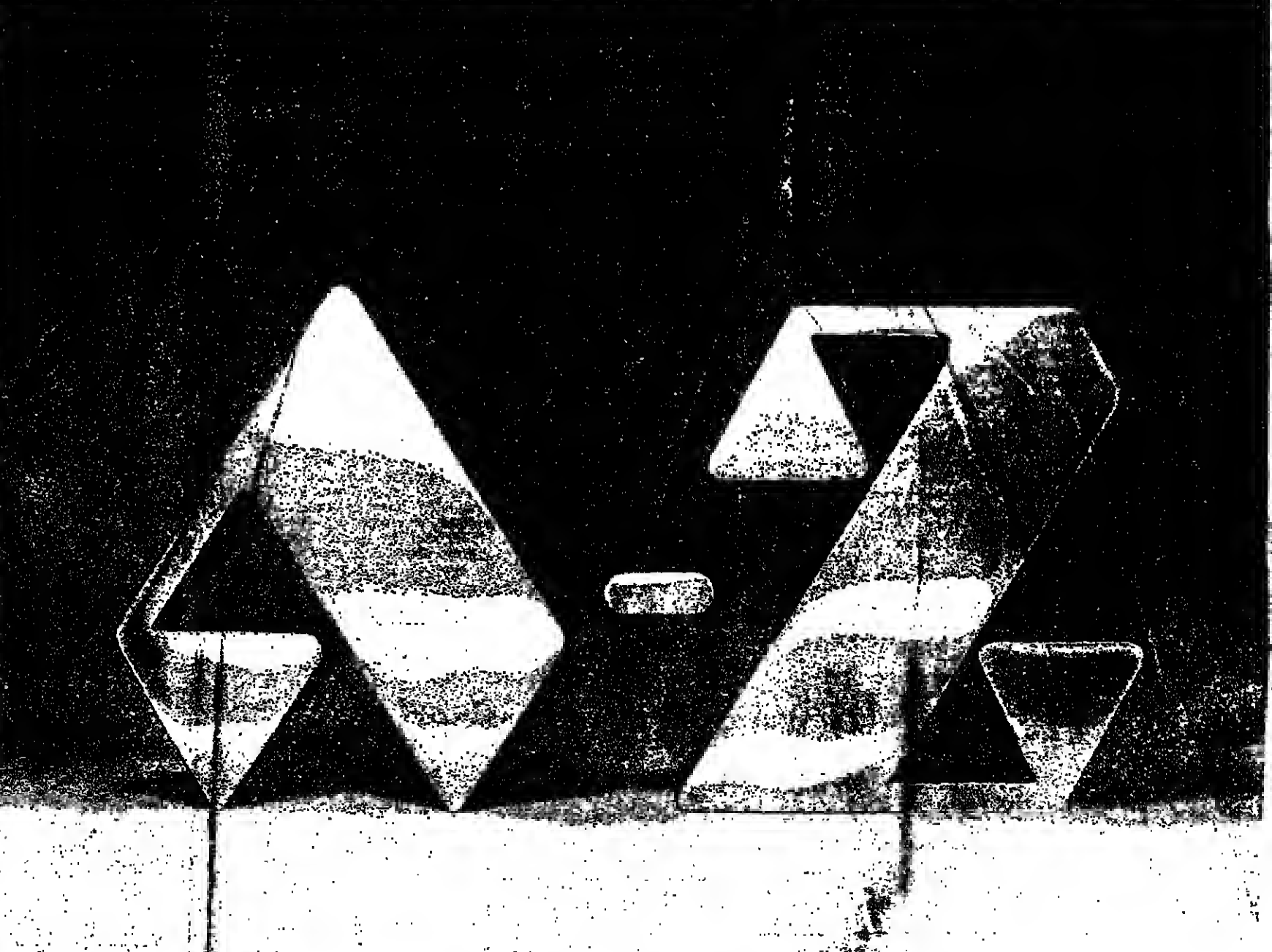
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EUROPEAN NEWS

Poll violence seen as boost to Turkish Opposition campaign

By DOMINICK J. COYLE ISTANBUL, May 30. THE INDETERMINATE bombings last night at Istanbul's airport and railway station, which follows the May Day massacre of 24 people by extremists during a trade union rally, is seen by Turkey's main political parties as a calculated attempt to build political tension and inhibit the turnout for next Sunday's national election. Police said today that five people died in last night's explosions, while earlier reports said more than 30 were injured. The police will not yet attribute the violence to any particular faction, but it is generally assumed that it was a calculated attempt to keep down the popular vote this week-end. While getting no encouragement from the Opposition leader, Mr. Bulent Ecevit, left-wing extremists are believed to feel that a low poll on Sunday will help his Republican People's Party (RPP) come to power. Such an outcome is still a considerable doubt, but the extremist Left has obviously decided that its best prospects lie in "influencing" the next government with an Ecevit victory. The apparent intention is to "intimidate" those voters who, while uncommitted, could be expected to support conservative parties. The police have given no satisfactory explanation for last night's bombings, nor for the 24 deaths, and while 14 mortars have been carried to all the victims, no official information on the category of weapons and bullets used in the recent incident has been leaked. This has boosted left-wing speculation that plainclothes policemen mingling with the May Day crowd after the first shots into the vast crowd congregated in Istanbul's main squares. Police reluctance to disclose the results of their ballistic analysis is matched by an apparent unwillingness on the part of both the RPP and the Justice Party of the Prime Minister, Mr. Süleyman Demirel, to condemn unreservedly the May Day killings. Leaders of both have expressed personal regret over the incident, but diplomatic and other observers note that this was "little more than courtesy." The main political parties fear major violence in the closing days of the campaign. There is certainly little doubt that violence is being both advocated and used by the anti-Fascist, National Movement Party. Mr. Ecevit, favoured to win most seats on Sunday, had his election rally at Izmir interrupted by a bomb explosion over the weekend, and sources close to the Opposition Leader insist that he will not hold a final rally here in Istanbul "unless" security arrangements are all-right. Passions have certainly been running high at all the political rallies, with Mr. Ecevit accusing the Prime Minister of Fascist tendencies, while Mr. Demirel calling Mr. Ecevit, Prime Minister at the time of the 1971 invasion of Cyprus, a Communist. This particular charge, which Mr. Ecevit's supporters says is a "ridiculous" and "unsubstantiated" allegation, was expressed in a victory speech on Sunday, to the present ban on the Communist Party.

Austrian Minister quits over arms deal

By Paul Lenzel VIENNA, May 30. ON THE EVE of a crucial parliamentary debate about his involvement in an arms scandal, the Austrian Minister of Defence, Gen. Karl Lauegendorf, has resigned following a meeting today with Chancellor Bruno Kreisky. Gen. Lauegendorf, a non-party general, became Minister of Defence in the Socialist Cabinet in 1971. A secret report prepared by a Parliamentary commission accused him of having misled the Chancellor and Parliament over the projected sale of 400,000 rounds of ammunition to Syria. When last December, the shipment was stopped by customs at Vienna Airport, the Minister repeatedly claimed that, as far as he had known, there were 2,000 "sappers' rifles and ammunition which was intended for Tunisia and not for Syria. Austria, as a neutral State, has refrained from selling arms to countries directly engaged in the Middle East conflict. The affair was particularly embarrassing to the Government because the ammunition had come from the stocks of the Austrian army, since the exporter at that particular time had not been able to secure it from a domestic arms manufacturer. Chancellor Kreisky is expected either to propose the present Minister of the Interior, Mr. Otto Roesch, or the new Minister of Defence, or to take over the portfolio himself.

Final bargaining clears way for Belgian Cabinet

By David Buchan BRUSSELS, May 30. FOLLOWING TALKS today and tomorrow on the allegation of Cabinet posts Belgium's new Government is expected to be announced on Wednesday. In this last stage of the six weeks it has taken Mr. Leo Tindemans the caretaker Prime Minister to put together a four-party coalition, the 20 or so posts must be divided equally on linguistic lines between the Flemish Nationalist Volksunie on the one hand, the French-speaking Brussels Party (FRDF) on the other, and the major bilingual parties, the Social Christians and the Socialists. The achievement of all these negotiations has been to draw up a definitive devolution plan for a federated Belgium of three regions and two communities (French and Flemish). This plan has won the approval of all four of the prospective parties. But a quarter of the Flemish Social Christian delegates and a third of the Volksunie delegates voted against it when it was put to party congresses over the weekend, because they felt it gave too much to the French-speaking majority in Brussels.

Italy political pact likely

By Paul Betts ROME, May 30. THOUGH THERE has so far been little enthusiasm for pre-regional branch secretaries. This has been interpreted as an indication that the Communists are unwilling to reach an agreement in domestic social and legislative spheres, there are signs that the Italian Communist Party is prepared to reach an agreement. The party has decided to do what effectively amounts to a promotional campaign to its confused rank-and-file members of the scope and reasons such an agreement. Wednesday, when the Italian Communist leadership is expected to discuss the possibility of an all-party summit, Communists have called a

Norway moves to protect workers

By Fay Gjerster OSLO, May 30. A NEW LAW giving Norwegian workers greater protection against unreasonable working hours or dismissal has been passed by the Storting (Parliament). The measure is the second stage of comprehensive new legislation on the working environment and worker protection introduced by the present Labour Government. It follows an earlier Bill to increase safety at work. The new law makes it illegal for employers to ask job applicants about their political beliefs or trade-union membership, and abolishes the immunity from prosecution previously enjoyed by organisations of employees who forced the dismissal of a worker.

OVERSEAS NEWS

MOZAMBIQUE'S ECONOMIC DIFFICULTIES

Tempering ideology with pragmatism

BY QUENTIN PEEL, RECENTLY IN MAPUTO. MOZAMBIQUE is undergoing a dramatic transformation from a classic colonial economy to a "scientific socialism." The upsurge of the victory (prostitutes). Not only has the heaval was caused by the victory of the Frelimo nationalist movement in the war against Portugal and its accession to power two years ago, which caused a flight of Portuguese families and capital. But in addition the country must contend with a deteriorating war on its Rhodesian border, the consequent disruption of all its traditional communication links, the return of thousands of exiles after it had gained independence, and most recently the worst floods of living memory in the wake of Hurricane Emily. At the end of this month Mozambique will face two further major economic upsets: the expected departure of between 15,000 and 20,000 Portuguese contract workers when their contracts expire on the second anniversary of independence; and the termination of the single most important source of foreign exchange, the premium which the Government earns on remittances from Mozambican migrant mine workers to South Africa. They are paid by Pretoria in gold, and valued at what still is the official price of \$42 an ounce. At the end of June the South African Reserve Bank is abolishing the official price, so that Mozambique will no longer be able to benefit from its recent windfall profits, estimated at around \$60m. a year, from selling the gold at the going market price. In spite of the gloomy forecasts of international aid agencies, and the horror stories circulated by embittered Portuguese emigres, Mozambique has managed to survive better than expected since independence. Certainly in Maputo there are at present few food queues because seasonal supplies of vegetables are adequate, if not very varied. But undoubtedly the underlying situation is very serious. As a colony, Mozambique ran a hefty merchandise deficit, offset by the services it provided to neighbouring South Africa and Rhodesia: migrant

The Government has taken advantage of the floods to push ahead rapidly with a programme to resettle traditional peasant farmers in communal villages. The programme has not gone as swiftly in other areas, and experts say, encountering opposition from conservative peasants. Consequently, there has been a hiatus in the traditional production of such commodities as cotton, tobacco and sugar. Even where agriculture has been maintained, communications problems difficulties have prevented produce reaching the towns and cities. The colonial power relied on its railway lines passing through Rhodesia for internal communications. Since the closure of the Rhodesian border these routes have been lost. According to one businessman it now takes a minimum of 10 days to get a lorry from Maputo to the north, and then only with small loads. Manufacturing industry and construction were decimated by the exodus of Portuguese. The U.N. estimates that employment fell in all key sectors during the past two years. However, those businessmen who have remained report healthy results, including increased production as long as they get the imports they need. Importers say they can sell as much as they are allowed to bring into the country. The favourable business conditions for consumer goods and foodstuffs reflect the redistribution of income to the lower (largely black) income groups. Poor transport has hit manufacturers who are attempting to switch to exporting, if only to

qualify for more import licences, and who are looking to Zambia and Tanzania as markets. The port of Beira is already working to present capacity, to spite of carrying only a fraction of the traffic it did before the Rhodesian border was closed. The diminished capacity of the line from Malawi to Nacala is also being fully used. It is restricted by the lack of technicians capable of maintaining equipment, added to the lack of maintenance in the last two years of Portuguese rule. The problem is expected to become even more acute at Maputo, which provides the bulk of the freight earnings from South African exports, once the expatriates' contracts expire. Reliable sources estimate that traffic through the port is already down to 40 per cent of its 1974 level, and that a concerted effort by South African Railways to persuade exporters to keep using the route. So far there is no sign of replacement having been found for the expatriate contract workers. The determination of the Government to find Mozambican solutions for its problems, could explain its tardiness in finding more foreign technicians. There is also a powerful belief in the efficacy of ideological inspiration. But the apparently hard line Marxist ideology adopted by Frelimo in February is tempered by a degree of pragmatism. There has been no headlong rush to nationalisation; laod, hospitals, schools, rented property, and private law practices were taken over immediately, but since then the only significant acquisition has been the insurance companies. The Portuguese Banco Nacional Ultramarino was automatically nationalised to become the Bank of Mozambique, bringing with it holdings in a vast range of agricultural and manufacturing enterprises. Businesses which have been abandoned by their owners are also being gradually taken over from the workers' committees which first took charge of them. Otherwise the commercial banks are still in private hands,

and the economic directives adopted by the Frelimo declare that "private commerce outside the former liberated areas (the northern Provinces) is to be permitted, but must be regulated to contribute positively to the stimulation of economic activity." The Government has announced that foreign-owned businesses which contribute to the country's well being will be allowed to repatriate some of their profits, which was not initially allowed. The details have yet to be clarified. Private foreign investment may actually be sought, alongside international government aid, for agricultural and other major projects. But few businessmen believe that they will be allowed to operate indefinitely. The party directives lay down that the Government is to "promote the increasing socialisation of agriculture, and... accelerate the process of industrialisation," including the creation of heavy industry. Long term prospects for the economy are much brighter. There are substantial reserves of cultivable agricultural land, and a geological survey is being carried out to identify commercially viable mineral deposits. Existing coal mines at Moatize are to be expanded to 2.5m. tons a year by 1980 and a state organisation is to be established to "ensure production" of gold, asbestos, and copper in the Manica region. But the lack of good transport would seriously hamper any extensive mining operations. The single most important political development to enhance the future of the country would probably be the independence of a stable Zimbabwe (Rhodesia). Not only would it reopen lines of communication, but co-operation between the two countries would also be of substantial mutual benefit.

MORE OVERSEAS NEWS ON PAGE 6

In spite of the gloomy forecasts of international aid agencies, and the horror stories circulated by embittered Portuguese emigres, Mozambique has managed to survive better than expected since independence. But the underlying situation is very serious. The latest UN estimate is a further deterioration of the trade balance this year, in spite of drastic import restrictions. Aid experts do not believe that the Mozambique stamp in agriculture, particularly in the export sector, has reached the bottom. The most fertile area of the country, the Limpopo valley, was devastated in the February floods causing damage estimated at excludos 1bn (£18.5m.). The principal export crop of cashew nuts is severely limited by the collapse of the traditional collection system, which depended on Indian and Portuguese-run local stores, now mostly abandoned. Mozambique is already importing Tanzanian beans in order to keep its canning plants busy. Only sugar and tea are expected to recover some of their lost production, with confident predictions that there is as much sugar to be harvested as in the peak year of 1970, some 250,000 tons. The world price, however, is weak.

Suarez poll doubts grow

By Roger Matthews MADRID, May 30. THERE IS growing fear among non-party workers backing the me Minister Adolfo Suarez for Spanish general election that alliance, the Union of the Democratic Centre (UCD), is not going to win its predicted smash-victory. They are urging the coalition to campaign more aggressively in the run-up to the 15 and not to rely so heavily on advertising and television. Though most observers expect UCD will be the single biggest force in the new Parliament, size of the victory is also a major importance. With the neo-Francoist Popular Front apparently failing to win the support that the Suarez camp was once predicting, the UCD is coming "mainly from the Left where Spanish Socialist Workers' Party (PSOE), seems to be running strongly. Suarez announced earlier he would not campaign actively, but as the UCD's only truly national personality, the decision is coming to be seen as a serious handicap. Yesterday over 1,000 political meetings throughout Spain with the UCD concentrating mainly on small street-corner gatherings, at which they handed out pamphlets. Other parties meanwhile drew in tens of thousands of millions to mass rallies and often managed to engender a tremendous feeling of enthusiasm and drive. It is the absence of any bandwagon effect that is at the root of the anxieties within UCD. Meanwhile, in the Basque provinces, the most troubled of Spain's regions, the first message from the kidnapped industrialist, Sr. Javier Ybarra, has been received ten days after he was freed. He is being held by a faction of the separatist organisation, ETA. It is believed that a substantial ransom demand is being negotiated.

Italy political pact likely

By Paul Betts ROME, May 30. THOUGH THERE has so far been little enthusiasm for pre-regional branch secretaries. This has been interpreted as an indication that the Communists are unwilling to reach an agreement in domestic social and legislative spheres, there are signs that the Italian Communist Party is prepared to reach an agreement. The party has decided to do what effectively amounts to a promotional campaign to its confused rank-and-file members of the scope and reasons such an agreement. Wednesday, when the Italian Communist leadership is expected to discuss the possibility of an all-party summit, Communists have called a

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OVERSEAS NEWS

Artillery battles in Lebanon intensify

By Ihsan Hijazi BEIRUT, May 30. THERE IS renewed concern here about rising tension in southern Lebanon after reported intensification of artillery duels in the past few days between Palestinian guerrillas and Lebanese Right-wing Christian militiamen near the border with Israel.

Israel coalition talks remain stalled

BY L. DANIEL TEL AVIV, May 30. THE PARTICIPATION or non-participation of the Democratic Movement for Change (DMC) in a coalition government led by the Likud, without which a government of Mr. Menachem Begin would have only the slenderest majority in the Knesset, was still in the balance to-night.

Bangladesh referendum win for Gen. Zia

President Ziaur Rahman of Bangladesh last night won near-unanimous approval for his martial law policies in a national referendum. Reuter reports from almost 20 per cent of the polling centres, Gen. Zia, as he is known here, had won 99 per cent of the vote.

Arrests follow coup attempt in Angola as purge spreads

LUSAKA, May 30. MORE THAN 100 Angolans, including the deputy chief of staff of the army, have been detained in Luanda following last Friday's attempted coup, President Agostinho Neto was quoted as saying to-night.

Tunisia-Libya oil row

BY TANYA MATTHEWS TUNIS, May 29. RELATIONS between Tunisia and Libya have gone from bad to worse over the continental shelf in the Gulf of Gabes where the Italian oil rig Scarabeo Quadro was displaced by a U.S. drilling ship J. W. Bates, installed by Libya to continue explorations off-shore in the zone which Tunisia has been claiming as sovereign waters.

Japanese ship detained

BY MIGUEL SUAREZ MANILA, May 30. PHILIPPINE military authorities today ordered the detention of a London-bound Japanese tanker diverted to Manila last week by its all-Filipino crew who are protesting against alleged "inhuman treatment" by shipowners in Osaka, Japan.

Egypt-U.S.S.R. row

Egypt, which hopes to patch up its strained relations with the Kremlin but refuses to send its Foreign Minister to Moscow, remained at loggerheads with the Soviet Union after talks failed yesterday to fix a site for a Foreign Ministers' meeting, Reuter reports from Cairo.

Bhutto names date for talks with opposition

ISLAMABAD, May 30. THE Pakistan Government today fixed Friday as the day for the talks which it promised to have without mental reservations, to allow the opposition Pakistan National Alliance to raise any point it wished. The opposition's main demands have been that Mr. Bhutto, the Prime Minister, should resign, the present National Assembly be dissolved, and that fresh elections be ordered under a reconstituted Election Commission.

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India £250m. loans

The Indian Government yesterday announced three loans totalling Rs.4bn. (about £250m.) as its first instalment of market borrowings for the current financial year, writes R. K. Sharma.

Goa to the polls

The first test of the mood of the Indian electorate will be provided by the former Portuguese colonies of Goa, Daman and Diu, which will vote to-morrow for local governments, Reuter reports from New Delhi.

Zambian shuffle

President Kaunda of Zambia has recalled the High Commissioner to London, Mr. Leonard Shanyova, the High Commissioner to Nigeria, Mr. Senti Loloma, the Ambassador to France, Mr. Jonathan Chirunga, and the Ambassador to the Ivory Coast, Mr. Pius Kasutu in a move to streamline the foreign service.

Execution in Namibia

JOHANNESBURG, May 30. A self-confessed former guerrilla trainee was hanged today in Windhoek, capital of Namibia (South-West Africa), in spite of appeals by SWAPO, all Western members of the UN Security Council for a stay of execution.

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No.1 across the Atlantic TWA TWA carries more scheduled passengers across the Atlantic than any other airline.

By John Wyles

Follow in Angola spreads

Race for New York mayoralty nomination

BY JOHN WYLES
NEW YORK, May 30. The Democratic Party in New York City will see a campaign for its nomination for Mayor in the weeks ahead, as the party's primary election is set for September 13. The race is expected to be a close one, with several contenders vying for the nomination. The incumbent Mayor, Abraham Beame, is expected to be a strong contender. Other contenders include Daniel Patrick Moynihan, who is expected to be a strong contender. The race is expected to be a close one, with several contenders vying for the nomination. The incumbent Mayor, Abraham Beame, is expected to be a strong contender. Other contenders include Daniel Patrick Moynihan, who is expected to be a strong contender.

Hughes relatives win control of Summa

NEW YORK, May 30. Relatives of the late Howard Hughes, the famous billionaire recluse, have won control of the board of the Summa Corporation, the main holding company in the vast Hughes empire. This important change in the direction of the Hughes estate was revealed in a statement issued in Las Vegas by Mr. William Lammie, a cousin of Mr. Hughes, and has been the subject of much speculation. The Summa Corporation is a large holding company that controls a wide range of businesses, including hotels, airlines, and real estate. The Hughes family has been in control of the company since the death of Howard Hughes in 1966.

QUEBEC'S FOREIGN INVESTMENT POLICY Rebuilding a dwindling economic base

BY W. L. LUETKENS, RECENTLY IN MONTREAL.
 FINANCIAL orthodoxy rather than social democratic sentiment was most interested in encouraging Quebec as it comes into production between 1980 and 1985. Mr. Landry explained that he was at present installed in the province of Quebec with a local partner. External investment in the province of Quebec is not welcome. More investment in the province of Quebec is not welcome. More investment in the province of Quebec is not welcome. More investment in the province of Quebec is not welcome. More investment in the province of Quebec is not welcome.

\$250m. MAC issue likely

BY OUR OWN CORRESPONDENT
NEW YORK, May 30. The Municipal Assistance Corporation (MAC) is expected to issue a \$250 million bond to help New York City repay its debt. The bond issue is expected to be a success, as the city's credit rating is strong. The bond issue is expected to be a success, as the city's credit rating is strong. The bond issue is expected to be a success, as the city's credit rating is strong.

N-defence of South Korea

BY DAVID BELL
WASHINGTON, May 30. The deployment of U.S. nuclear weapons in South Korea to defend our own interests would, if necessary, be a very serious step. The deployment of U.S. nuclear weapons in South Korea to defend our own interests would, if necessary, be a very serious step. The deployment of U.S. nuclear weapons in South Korea to defend our own interests would, if necessary, be a very serious step.

Mrs. Carter in Jamaica

BY CANUTE JAMES
KINGSTON, May 30. Mrs. Rosalynn Carter, wife of the U.S. President, arrived in Jamaica today at the start of a three-day tour. Mrs. Carter is expected to be a success, as the city's credit rating is strong. Mrs. Carter is expected to be a success, as the city's credit rating is strong.

Famine worsens in Haiti

BY HUGH O'SHAUGHNESSY
 Conditions are desperate from mid-June onward. The famine in Haiti is expected to be a success, as the city's credit rating is strong. The famine in Haiti is expected to be a success, as the city's credit rating is strong.

Trinidad industrial plan

BY DAVID RENWICK
PORT OF SPAIN, May 30. The Trinidad government has announced a major industrial plan. The plan is expected to be a success, as the city's credit rating is strong. The plan is expected to be a success, as the city's credit rating is strong.



GAS-THE FUEL IN THEIR FUTURE.

We're lucky in Britain, we have vast reserves of natural gas in the North Sea—enough to supply our essential needs for decades to come.

Natural gas has already brought great benefits to Britain. It saves us thousands of millions of pounds each year on our balance of payments. It supplies a quarter of all the heat our industries need. And over 13 million customers already use this clean, controllable and economical fuel to heat their homes and cook their meals.

But the best is yet to come. Because, as more gas becomes available, the benefits will continue to grow. Natural gas is a vital resource for Britain—and fortunately an abundant one. But it's much too good to waste.

Provided we continue to use it wisely, natural gas will continue to serve our children for decades to come.

GREAT GAS FOR GREAT BRITAIN!

BRITISH GAS

Atlantic

WORLD TRADE NEWS

Marked upturn by Italy

By Paul Setts
ROME, May 30
ITALY'S BALANCE of trade made a notable improvement during the first quarter of this year compared to the same period last year.

Export week for London

Financial Times Reporter
Export 77, a week of activities aimed at encouraging and assisting companies and organisations already exporting or considering exporting for the first time, is to be held in London from November 28-December 2.

U.K. campaign for government action against Arab boycott

BY ANTHONY McDERMOTT

THE BRITISH GOVERNMENT has been urged in a memorandum sent by the three leading Jewish communal organisations to enact legislation against the effects on British companies by the Arab boycott of Israel.

Canada-Israeli projects

BY L. DANIEL

TEL AVIV, May 30.

CANADA MAY apply know-how in the development and production of an Israeli bus adapted to the country's particular requirements.

British furniture sales rise 44%

BY CHRISTOPHER DUNN

BRITAIN SOLD a lot more furniture abroad last year, but even so manufacturers still need to be highly vigilant about production standards, according to Sir Roger Falk, chairman of the Furniture Development Council.

French win major Saudi contract

By Rod Newman

JEDDAH, May 30. THE FRENCH company SAJ today was awarded a \$215m. contract for the second stage of a public housing project in Jeddah, the official Saudi Press Agency announced.

New container services

Two new joint container services to the Mediterranean and the Middle East have been formed by Ellerman City Liners, P & O Strath Services and Prince Line, our Shipping Correspondent reports.

Romania may build up to fifty BAC 1-11 airliners

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

BRITISH Aerospace, the nationalised aerospace organisation, is hoping that Romania may eventually build as many as 50 of the 1-11 short-haul jet airliners produced by the British Aircraft Corporation.

Air freight use survey

FINANCIAL TIMES REPORTER

A COMPREHENSIVE survey of the use of air freight by U.K. shippers has been published by the Civil Aviation Authority.

Japan car and TV exports fall

TOKYO, May 30.

JAPAN'S April vehicle exports fell to 265,900 units, bringing the total in the first four months to 787,000 units, up 21 per cent.

Suntory doubles capacity

KENNETH GOODING

SUNTORY, THE major Japanese whisky producer, has completed an expansion programme at its Hakushu distillery at the cost of Yen 5bn.

Soviet trade pact now signed

TOKYO, May 30.

JAPAN AND the Soviet Union today signed a new five-year trade agreement, stalled since last September after a Soviet pilot flew a top secret MiG-25 jet fighter to Japan.

New from TWA A daily non-stop to San Francisco

A daily service, via the Polar route, leaves London 11.30. Arrives in San Francisco 14.40. Call your travel agent or TWA.

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CONTRACTS AND TENDERS

SALE BY TENDER

Assets of Provincial Refining Company Limited

Sealed tenders marked "DO NOT OPEN—TENDER—Provincial Refining Company Limited" will be received by the undersigned until 3:00 p.m. (Local Toronto time) on the 15th day of September, 1977, for the following assets of the above company.

Table with 2 columns: Product Name and BPCD. Includes propane, gasoline, jet/ kerosene fuel, etc.

- Process Units and Design Capacities: 105,000 BPSD Crude/Vacuum distillation unit, 18,000 BPSD Visbreaking* unit, etc.

- pollution control system with: API separator, effluent biological treatment, 250 foot H2S incinerator stack, etc.

tender and the terms and conditions of sale may be obtained from the undersigned. The highest or any tender shall not necessarily be accepted and the right to reject any and all tenders is reserved.

PEAT MARWICK LIMITED Receiver and Manager—Provincial Refining Company Limited P.O. Box 31, Commerce Court West Toronto, Ontario M5L 1B2 Canada

HOME NEWS

Ulster police have more successes against terrorism

BY OUR BELFAST CORRESPONDENT

BETTER RESULTS by the Royal Ulster Constabulary in fighting terrorism will be detailed by Mr. Kenneth Newman, the force's Chief Constable, at a security review today with Mr. Roy Mason, Northern Ireland Secretary.

Hint of extra EEC aid for province

BY OUR OWN CORRESPONDENT

MINISTERS and officials at the Northern Ireland Office had lengthy talks about the Ulster economy yesterday with Sig. Antonio Giolitti, the EEC Commissioner for regional policy, writes our Belfast Correspondent.

School dinner overheads over twice cost of food

BY MICHAEL DIXON, EDUCATION CORRESPONDENT

OVERHEAD EXPENSES of providing school dinners are now more than twice as great as the cost of the food, according to Government statistics published today.

Computers policy under fire

HONEYWELL Information Systems yesterday attacked the government's computer purchase policy in a statement yesterday.

Levy on excess profits urged by Co-op union

BY ELINOR GOODMAN IN BLACKPOOL

THE CO-OPERATIVE Union Mr. Roy Hattersley, Secretary for price restraint during periods of inflation, did not see long-term controls as necessary in the present.

Left-wing Labour MP urges selective price freeze

CALLS FOR "bold Socialist measures," including a "reflation of the economy and a selective price freeze," were made yesterday by leading members of the Labour Party who offered fraternal greetings to delegates at the Co-operative Movement's annual congress, writes Elinor Goodman.



Mr. ROY HATTERSLEY Firm on price controls

Tesco supermarket chain, Mr. Perrow said that the development of supermarkets in inner city areas could contribute to the general revitalisation of such areas.

Pay deal paper purchase 'could destroy jobs and fuel inflation'

BY PHILIP RAWSTORNE

THE POLITICAL paper purchase for a new pay deal with the TUC could end in disastrous inflation and job destruction, Sir Geoffrey Howe, Tory economics spokesman, said yesterday.



MR. ERIC HEFFER Pressing for reflation

Go-ahead recommended for Shell/Esso plan

BY KEVIN DONE, CHEMICALS CORRESPONDENT

THE £400m. petrochemical complex proposed by Shell/Esso and Esso Chemical for construction at Mossburn, Fife, comes before the Fife Regional Council for approval today.

Trust Houses Forte create employment

As probably the largest hotel, catering and leisure group in the world, our 'shopping list' is considerable.

- 1 We spent £223,000,000 on goods and services last year.
2 £34,000,000 was spent in the public sector, including gas and electricity.
3 In the private sector we spent £189,000,000.
4 We purchased 37 million pints of milk, 19 million eggs, 7 million loaves, 32,000 tons of meat and vegetables. We also purchased 3 million glasses, 3 million pieces of crockery, 500,000 pieces of cutlery and 57 miles of carpet.

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The Pension Deadline

Directors. Where will you stand?

Before December 13th your company must decide the relative merits of contracting in or out of the new State Earnings Related Pension Scheme.

Ask Towry Law Independent Financial Advice

Would like to know more about tax efficient pension arrangements for my company/myself.

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HOME NEWS

BP plans further North Sea expansion

By Ray Daisey, Energy Correspondent
BRITISH PETROLEUM is about to extend its influence in North Sea oil exploration by gaining control of a block immediately north of its Magnus Field.

Sunderland Shipbuilders wins £50m. liner order

BY ROY ROGERS, SHIPPING CORRESPONDENT

SUNDERLAND Shipbuilders has won orders worth more than £50m. which will keep its Wear yards busy until early 1979 and give considerable work to other companies within the group.

Far Eastern competitors. The new orders involve six 13,500 tonnes deadweight cargo liners, three of which will be built at Falkland three at the company's nearby Deptford yard which would otherwise have run out of work by December.

potential contract is fiercely contested world-wide," said: "We are most grateful to Bank Line for again demonstrating their confidence in the most positive way, of the ability of Sunderland Shipbuilders to build the type and quality of ship to meet their requirements."

Britain sells coal gas plant to U.S.

By David Fishlock, Science Editor

ADVANCED British gas-making technology is to be used by U.S. industry in the development of a process for converting coal into synthetic natural gas.

Cabinet will not find more cash for London commuters

BY IAN HARGREAVES, TRANSPORT CORRESPONDENT

DIFFERENCES OF Ministerial view on two important issues have emerged during the passage of the White Paper on transport through Cabinet committee.

insistible issue. The draft White Paper argues that subsidies to these services must be curtailed ever if it means that British Rail has to raise real fare increases of 7 1/2 per cent and losing 60,000 passengers a year.

services should be taken by county councils, and implicitly accepts that they will have to give part of the money which at present goes direct to British Rail as part of the public-service obligation payment.

World Value of the Pound

The table below gives the latest available rates of exchange for the pound against various currencies on May 30, 1977. Rates are nominal. Market rates are the average of buying and selling rates except where they are shown to be otherwise.

Scheduled Territory: (s) official rate; (F) free rate; (T) tourist rate; (N.C.) non-commercial rate; (A) available; (S) selling rate; (B) buying rate; (nom.) nominal; (ex/C) exchange certificate rate; (P) based on U.S. dollar; (B.B.) bank's rate; (B.B.) bank's rate; (cm) commercial rate; (cn) convertible rate; (fn) financial rate.

Table with columns: Place and Local Unit, Value of £ Sterling, Place and Local Unit, Value of £ Sterling, Place and Local Unit, Value of £ Sterling. Lists various countries and their exchange rates.

Gallaher 2p on cigarettes

GALLAHER is to increase its up 2p an ounce to 87p and pipe cigarette prices from June 1. There will not be an increase on cigars. Most brands will go up 2p for 20 making Benson and Hedges Special Filter 56p, Silk Cut King Size 55p, and Silk Cut Regular 51p.

NEWS ANALYSIS—ACCOUNTING

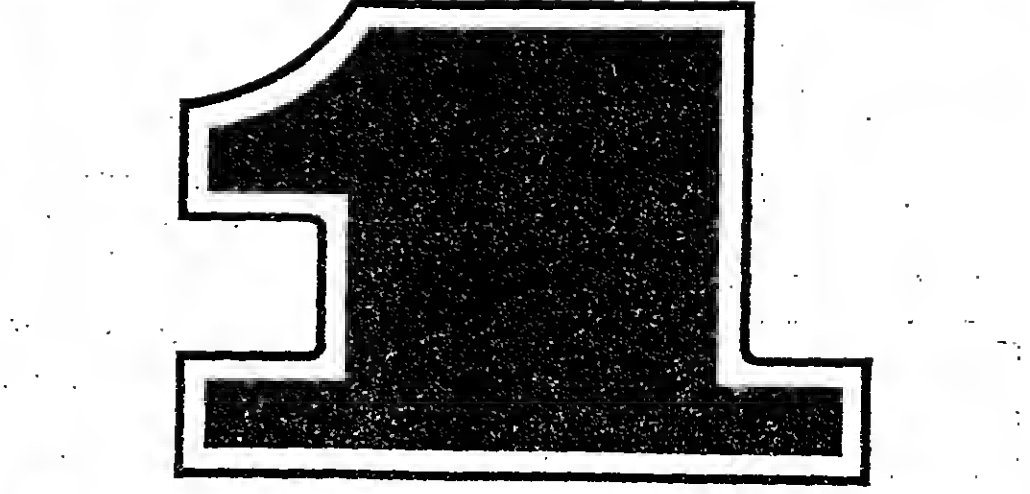
Finding a better alternative to Morpeth proposals

BY MICHAEL LAFFERTY, CITY STAFF

AN ALTERNATIVE inflation accounting exposure draft is published today by the London Society of Chartered Accountants, the largest and most influential English institute of Chartered Accountants' district societies.

The exposure draft is significant because it is framed as an alternative to the much-criticised official Morpeth ED 18 proposals and because its authors claim it achieves more than either ED 18 or any of the other comments so far submitted to the Morpeth steering group.

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Tuesdays and Thursdays (all local times). London-Rome depart 14:15 Benghazi-Rome depart 08:45 arrive 16:25 arrive 09:50 Rome-Benghazi depart 17:15 Rome-London depart 10:50 arrive 20:15 arrive 13:05

NEWS ANALYSIS—ACCOUNTING

The problem

Essentially, this reflected the problem which accountants have long found difficult to resolve—what is the capital of a business? Is it the shareholders' funds or the operating capacity of the business itself, as the Sandilands Report suggested.



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LIBYAN ARAB AIRLINES
*PEOPLE'S SOCIALIST LIBYAN ARAB JAMAHIRIYA

A FINANCIAL TIMES SURVEY

FRANCE

JUNE 27 1977

The Financial Times is preparing to publish an extensive survey on France in its edition of June 27 1977. It will examine in detail the country's political situation, its foreign policy, economic position and its policies for industry and energy. Separate articles will analyse individual sectors of French industry and finance, including steel, aircraft, cars, computers, chemicals and banking. The main headings of the proposed editorial synopsis are set out below.

INTRODUCTION Following left-wing gains at municipal elections last March, there is a more than even chance that a Socialist-Communist government will come to power at next Spring's general election.

THE ECONOMY Prime Minister Raymond Barre's economic stabilisation plan has gone some way towards bringing inflation under control and reducing the foreign trade deficit; but unemployment remains dangerously high.

THE LEFT The Union of the Left is now the most powerful force in the country and only a herculean effort by the government coalition to patch up internal divisions can reverse the trend.

INDUSTRIAL POLICY The government has favoured rationalisation of major industrial sectors but remains hostile to any large-scale nationalisation as proposed by the Union of the Left.

FOREIGN POLICY President Giscard d'Estaing has adopted a less nationalistic and much less anti-American foreign policy than his predecessors but he has lately put more emphasis on France's independent role.

ENERGY POLICY France's dependence on imported energy has obliged the government to go ahead with an ambitious nuclear programme despite environmental objections.

THE STEEL INDUSTRY The government has adopted a plan to restructure the heavily-indebted steel industry; this has led to a sweeping reduction of jobs in the steel-producing area of Lorraine and has run into fierce opposition from trade unions.

THE AIRCRAFT INDUSTRY Lack of orders for Concorde and the European Airbus has created serious problems for the aircraft industry.

THE MOTOR INDUSTRY The motor-car industry remains the most buoyant sector of the economy but growing Japanese imports are a constant worry and truck sales have lagged behind those of passenger cars.

THE COMPUTER INDUSTRY A decision to merge the French CII Computer Company with Honeywell Bull of the U.S. has ended years of uncertainty about the future of the computer industry; but doubts remain about the viability of European national efforts.

BANKING The banking and credit sector is already heavily nationalised and the programme of the Left calls for the completion of state

takeover. Meanwhile, development of Paris as a financial centre continues, and the promised restructuring of important parts of French industry is likely to make heavy demands on the financial services.

ELECTRONICS The government has encouraged the formation of industrial groups capable of seeing through the modernisation of France's telecommunications.

ENGINEERING The heavy engineering industry has been suffering from slack orders for capital goods but its export record remains good. The government has introduced a plan to strengthen the machine-tool industry.

CHEMICALS The chemical industry did much better in 1976 than in the previous year and sales have been rising substantially; but it has suffered from price controls introduced last autumn.

CONSTRUCTION After two poor years, the building industry continues to be depressed. Many building companies expect to reduce personnel this year.

SHIPBUILDING The industry has suffered from the general dearth of orders. The Government has introduced measures to aid French shipbuilders but more radical restructuring is generally expected.

AGRICULTURE Last summer's drought caused a considerable loss in production, while early spring frosts may have taken a heavy toll of fruit. Expansion of agricultural exports is playing a vital role in the plans to turn round the French balance of payments.

WINE The intractable problem of surpluses of poor-quality ordinary wine remains to be tackled, and is aggravated by the import of cheap Italian wine.

THE FRENCH CINEMA Few French quality films are currently being produced; but the general output of the industry remains large and co-productions with other countries are on the rise.

THE POMPIDOU ARTS CENTRE This national centre for modern art and culture opened this year and has attracted abuse for its ultra-modern and original architecture imposed on an old quarter of Paris. But it has become an immensely popular tourist attraction.

The proposed publication date is June 27 1977. Copy date is June 17. For further details of the synopsis and advertisement rates contact:—

Patricia Surridge, 01-248 8000 extension 426
Financial Times, Bracken House, 11 Cannon Street, London EC4A 4BY. Telex 885003.

Anne-Marie Tazzi, Tel. 236 86 01
Financial Times, 36 rue du Sentier, 75002 Paris, France. Telex 220044.

FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

The content and publication details of this survey are available in the Financial Times on 27 June 1977. For details of the survey contact:—

ENTERTAINMENT GUIDE

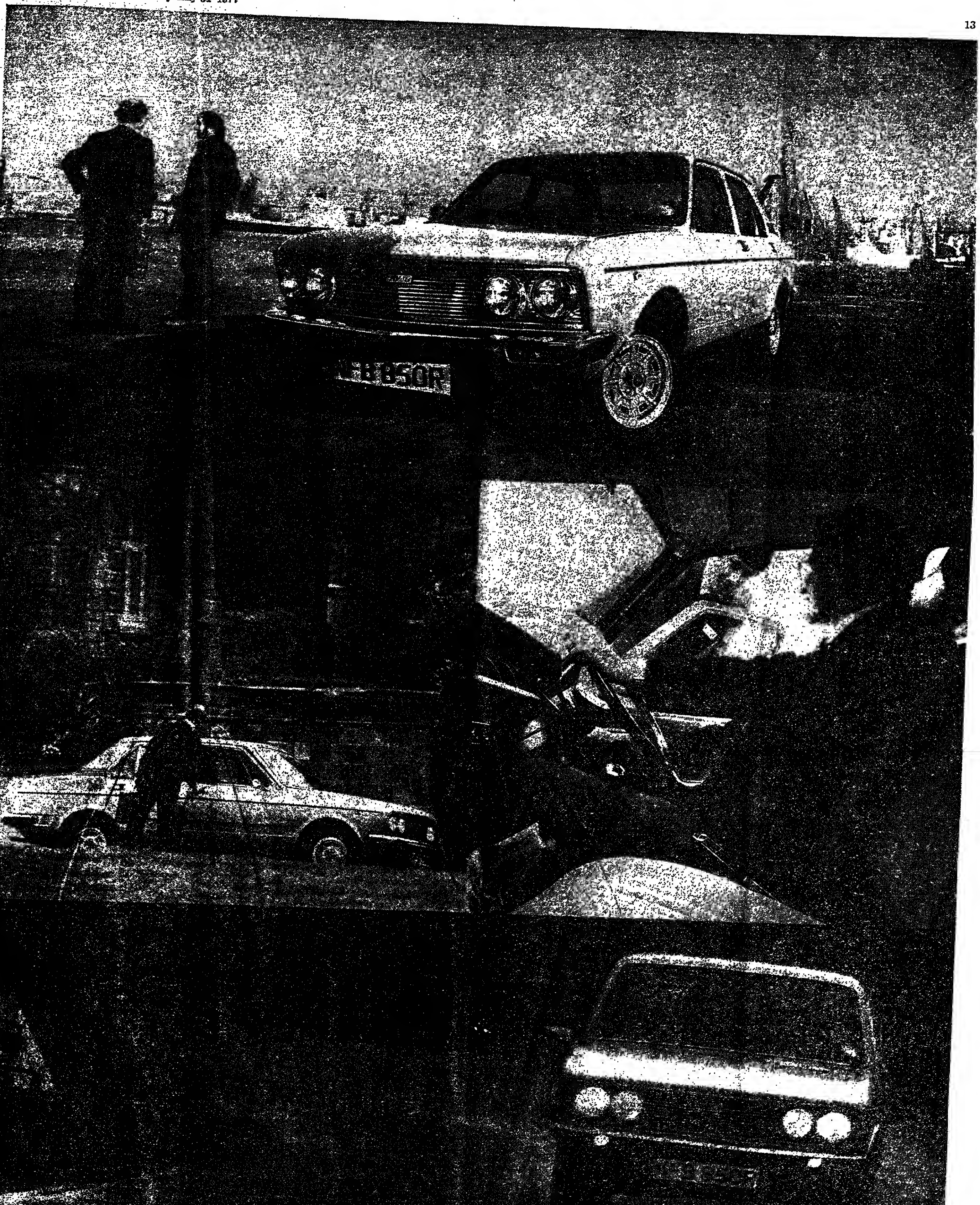
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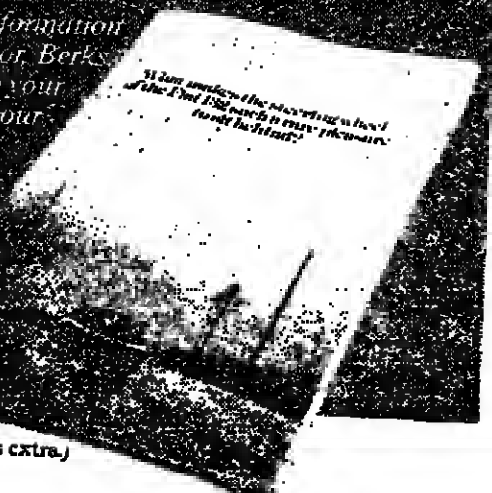
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July 15 50

The Management Page

EDITED BY CHRISTOPHER LORENZ

The relevance of added value to industry and the nation, and two bonus schemes based on the concept, are analysed by Sue Cameron.

Adding value to Britain

THE LAST year has seen a sudden upsurge of interest in added value — so much so that some of its proselytes are now clearly regarding it as a panacea for most of Britain's economic ills.

It is not a panacea — in the realm of national economics such things do not exist. But a growing body of evidence suggests that the added value concept can be used to considerable effect both nationally and by individual companies.

The different theoretical debates are often fascinating, though sometimes endless. But it would appear that the key factor in the successful operation of added value systems is consistency. As long as a company or a statistician sticks to the same definition throughout, the individual interpretation probably does not matter too much.

Added value certainly has a wide range of applications. It is used to compare such things as the industrial investment rates of different countries, industries or individual companies. It is also used to examine the pattern of wage cost levels over a period of years. Company results can also be expressed in terms of added value and added value principles can be used to determine the pay or bonuses of a company's employees.

performance to their own efforts precisely because an added value figure represents, to a large extent, the work that has been done. In addition to this added value does away with the traditional and emotion-ridden concept of profit.

In the next few years the added value principle may be used even more widely as a method of expressing financial results. The Department of Trade is currently preparing a green paper on the reform of the Companies Act and this is expected to include some discussion of added value.

greater sense of involvement in company affairs and that this, in turn, brings better industrial relations. Negotiations over basic wage rates or reductions in the size of the labour force are said to become much easier simply because there is more understanding of the problems facing a company.

Yet added value bonus schemes can have disadvantages. Companies normally need to launch an intensive education programme for all employees before introducing an added value pay system. And some people may still be suspicious of the whole idea purely because it is so simple. Even when a scheme has been successfully set up it requires considerable effort and time on the part of everyone in a company to keep it going successfully.

Another drawback in the eyes of some executives is that the added value approach can stimulate criticism of management by shop floor workers. Some would say it is inevitable that employees will be more critical of management as their knowledge increases and they become more involved with their company's success. But some managers strongly resent criticism from workers — no matter how constructive it may be.

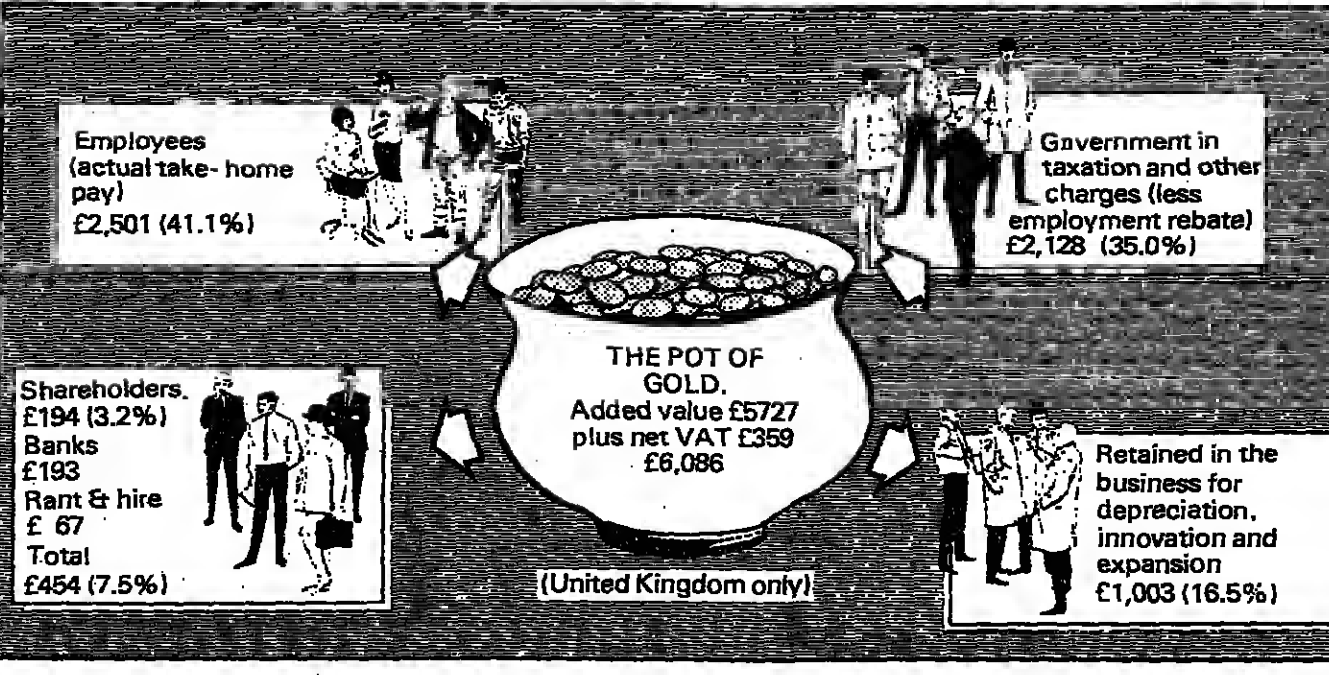
Easy to grasp

At present, added value systems are most commonly used to express individual company results, especially in the "top" reports designed for employees. Among the organisations that give their results in added value terms are GKN, GEC, Marks and Spencer, Redman Heenan International, Pilkington Brothers and the Financial Times.

The beauty of an added value statement is that the principle is simple and easy to grasp. Employees have less difficulty in relating their company's performance to their own efforts precisely because an added value figure represents, to a large extent, the work that has been done.

Wage patterns

The ratio of wages and salaries to added value can provide useful statistics for an entire industry as well as for a single company. One way in which these are used is to show the pattern of wage cost levels within an industry over a comparatively long period.



How a leading British manufacturer, Pilkington Brothers, distributes the wealth it creates — what Dr. Frank Jones called the "pot of gold" when he presented this diagram at a recent conference. Pilkington is considering the use of an added value bonus scheme for its salaried staff.

The British Census of Production shows that the shipbuilding value did not increase or where industry's wages and salaries, the percentage of added value expressed as a percentage of spent on pay was deemed to be added value, stood at 73.1 per cent in 1963, at 74.3 per cent in 1968, 74.9 per cent in 1973 and then rose to 78.8 per cent in 1975. The percentage for the textile industry went from 53.2 to 50.9 and then dropped to 48.8 before rising again to 61.4 in 1975.

In the petroleum products industry the figures show a sharp downturn. They went from 38.1 per cent in 1963 to 27.8 per cent in 1968, 27.5 per cent in 1973 and then plummeted to 15.5 per cent in 1975. The census shows that the percentage of added value for all manufacturing industries over these four years was 52.7, 50.8, 49.0 and 52.1.

Some economists have been arguing that statistics like these should be used to form the basis of a new national pay policy. The idea is that pay increases within a certain industry would be directly related to increases in added value. Where added value did not increase or where the percentage of added value spent on pay was deemed to be too high, strict limits could be imposed on all wage rises within the industry concerned.

'it gives employees a much greater understanding of how a business works'

THE Harris and Sheldon group, which is based in Meriden, first set up an added value bonus scheme in 1967, in one of its liftmaking companies. To-day similar schemes are operating in all 15 of the companies in the group, which include Webby and Scott guns and Auler luggage. Harris and Sheldon claim that the group's overall productivity has increased by at least 15 per cent as a result.

The activities of the Harris and Sheldon group embrace shop fitting, presswork, fishing tackle making, the production of kitchen furniture and engineering. The added value pay schemes are operated on a plant basis. The plants vary in size but the biggest employ about 700 people. The starting point for all the pay schemes is the ratio of wages and salaries to added value. The group overall spends about 50 per cent of its added value on wages and salaries. In some of the craft companies the proportion of added value spent on pay is as high as 70 per cent, while in the engineering concerns it tends to be between 30 per cent and 40 per cent.

by cutting costs or improving output. When this happens the employees' normal percentage share of the added value will exceed the basic wage bill — in cash terms. Part of this extra money is then given to employees in the form of bonus payments.

In Harris and Sheldon companies any cash increase in the employees' share of added value is divided on a 60 to 40 basis. The company concerned takes 40 per cent of the increase for reinvestment while the other 60 per cent goes to employees' bonuses.

If added value does not go up then no bonuses are paid. The group says that if added value actually dropped the employees' basic wage rates would not be cut, at least in the short term. But Harris and Sheldon adds that this particular problem has not yet arisen. The group's added value bonus schemes are designed to operate on a monthly basis. Each one is administered by a company consultative council. The consultative councils include representatives from senior and junior management and from all shop floor departments. The shop floor representatives are usually — but not invariably — trades union members.

In order to administer the schemes successfully, each council has to be given full details of its company's performance for the preceding month. Council members then report back to all the figures to colleagues in their own sectors.

Mr John Dickinson, commercial director of the Harris and Sheldon group, says that the council system gives employees a much greater understanding of how business works. He adds that communications between managements and employees have improved all round since the bonus schemes were introduced.

Mr Dickinson insists that the group's employees are now far more willing to consider natural wastage in the labour

force, when necessary, because they know that a smaller workforce will mean bigger bonuses for individuals. At one company, for instance, the 260-strong labour force has been cut by 28 through natural wastage.

Employees are also keen to make suggestions for cutting costs and improving efficiency — so that their company's added value and their own wage packets will be boosted, Mr Dickinson says that since the bonus schemes were introduced demarcation disputes have become a thing of the past. People are prepared to lend a hand wherever it is needed.

Ionic Plating, which is based in the Birmingham area and forms part of the GKN group, is another company that has brought in added value incentive schemes. It too has set up consultative councils, with representatives from all departments being elected by ballot. In addition to this, union members are allowed to sit on the councils as ex-officio members.

The system at Ionic Plating differs in several ways from that at Harris and Sheldon. For one thing, office staff are

only indirectly linked into the scheme — they are paid a bonus that is based on a productivity index.

Another difference is that the shop floor workers' percentage of any increase in added value is not shared with the company. But part of it is put into a reserve fund every month. This is because Ionic Plating is a jobbing company and business fluctuates considerably from one month to the next, regardless of the effort put in by employees. The reserve fund provides some insurance against slacker periods.

At Harris and Sheldon the money available for bonus payments is usually shared out on a per capita basis. At Ionic Plating, on the other hand, each individual's share of the added value increase is related to his or her basic rate of pay, excluding overtime.

Miss Janine Wynne, secretary to all the Ionic Plating consultative councils, says that in a good month a worker's added value bonus can be as high as £35. She adds that one of the greatest benefits of the scheme has been the number of suggestions for saving money or increasing efficiency.

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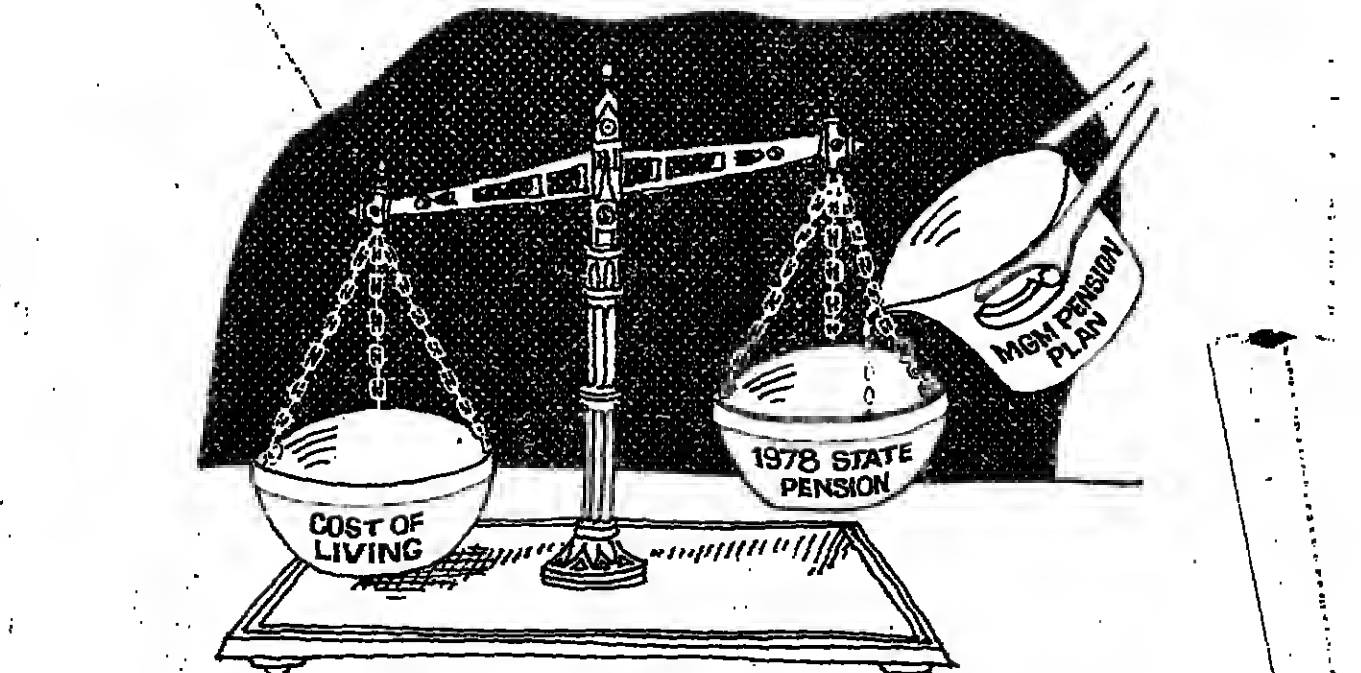
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South Africa: Carter turns on the heat

By BRIDGET BLOOM, Africa Correspondent



Mr. Mondale (left) with Mr. Vorster: in Vienna the talk was tough.

View from the Kremlin

EEN FROM MOSCOW, the foreign policy outlook these days cannot be rosy. Ever since the accession of President Carter indeed the initiative has been steadily slipping away from the Russians.

Belgrade To take the CSCE first. The Conference was long a Soviet idea. It was resisted by the West until the West had secured the four power agreement on Berlin and also the start of the negotiations on East-West force cuts (MBFR).

Still waiting for audit standards IT IS REFRESHING that another leading member of the auditing profession, Mr. Ian Davison of Arthur Andersen, has publicly called on his colleagues to take some action to meet the growing public disquiet in this and other countries over standards of auditing.

Still waiting for audit standards

Self-discipline Perhaps the most important question, though, is not what standards are required, but who is to enforce them. There is no reason in principle why the accounting profession, like other professions, should not establish and enforce its own standards, though legislation would be required to make investigation and discipline effective.

Friends Is amity breaking out between Whitehall and the Central Electricity Generating Board? Sir Arthur Hawkins, who retired as CEBG chairman earlier this month, was outspoken in his

RELATIONS between the U.S. and South Africa may have crossed a watershed, with profound implications for Britain and for Washington's other allies. Evidence for supposing so emerged at the meeting in Vienna between Mr. Walter Mondale, the U.S. Vice-President, and the South African Prime Minister, Mr. John Vorster.

At that meeting, only three months after its inauguration, the new U.S. administration came out with the strongest ever denunciation of South African apartheid policies. While it is not yet clear how far President Carter is prepared to back verbal condemnation with practical action, there can be little doubt that he intends to follow fundamentally different policies towards southern Africa from those of his predecessors.

Short shrift given An equally important belief, and it seems, one which is equally shared by all those at the top, is that the continuation of apartheid in South Africa is the surest way to encourage Communism in southern Africa. The Carter administration does not believe that the Soviets are necessarily bent on taking over Africa and certainly does not believe that the Africans want to be taken over.

Men and Matters Peachey's third JP Sir William Harris, who yesterday became a director of Peachey Property Corporation, has long had a nodding acquaintance with recently deposed chairman Sir Eric Miller, against whom Peachey has served a writ for £130,000. Both are Justices of the Peace in the South Westminster division.

UDT... As a leading finance house, UDT offers loans to the individual; and to manufacturers, traders and farmers, finance for vehicles and equipment.

MEN AND MATTERS

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South Africa as well as in Namibia and Rhodesia, and that there must be simultaneous progress in all three towards majority rule—a term used now by all top U.S. officials, including the President and Vice-President.

Mr. Mondale's tough message to Mr. Vorster went down well in the U.S., and the administration is carefully consulting Congress at every stage. Though the approach to South Africa is "more in sorrow than in anger," the new administration does not seem likely to change its attitude.

Mr. Vorster's hope Are the two countries therefore headed for confrontation, and a course which could involve not only the U.S. but Britain too? Both sides say they hope not.

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believe the parallel to be naive; blacks in South Africa do not even in theory have the legal right to demand equal rights as blacks did in the south; neither was white minority rule there buttressed by large and relatively sophisticated military, police, and intelligence forces.

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FINANCIAL TIMES SURVEY

Tuesday May 31 1977

Aerospace

This year's Paris Air Show should herald the beginning of a new period of growth in both civil and military aerospace developments. For the newly created British Aerospace this should enable it to establish its place in the world markets.

All the trends are upwards

By Michael Donne, Aerospace Correspondent

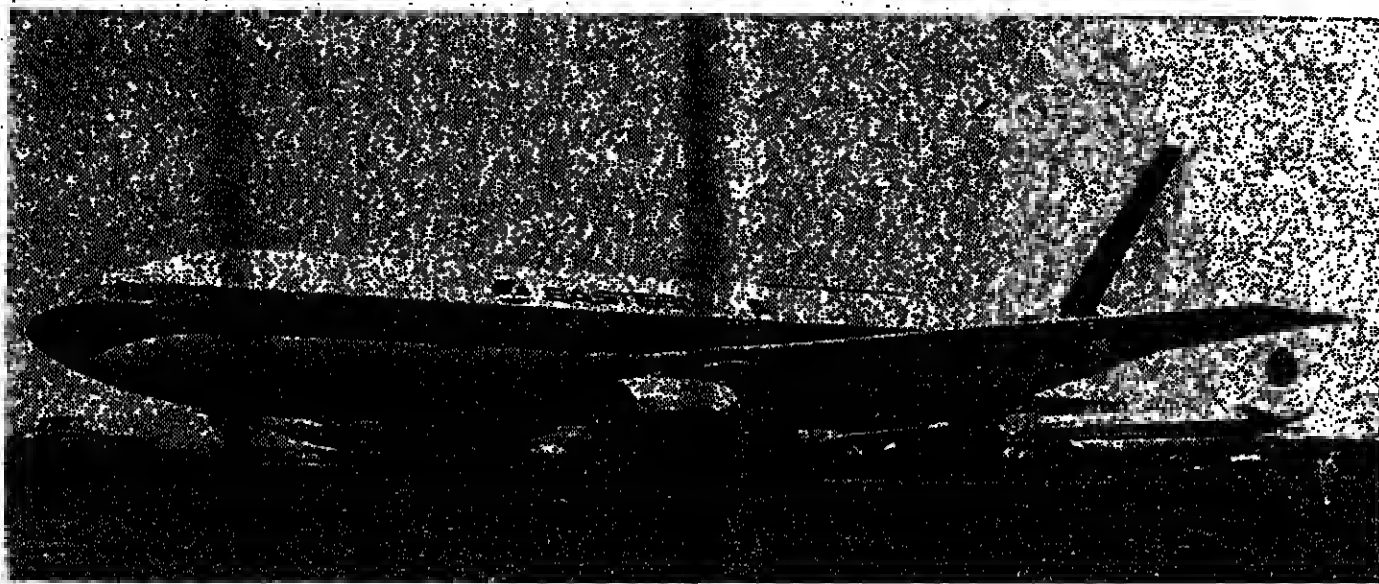
THE WORLD'S aerospace and airline industries go to this week's Paris International Air Show conscious that they are on the verge of a major new period of expansion. The long era of post war development in civil and military aviation ended with the oil crisis of 1973 and the subsequent economic recession. Now, after the hiatus of the past few years, the new era which is about to start albeit a little hesitantly, seems likely to see long-term growth even more dramatic than that which has gone before.

This expansion is likely to be most apparent in the civil field, where most of the world's major airliner manufacturers are forecasting sales of up to 1,300bn. or so of new aircraft by 1985, amounting to between 3,000 and 4,000 aeroplanes of all kinds, to meet a doubling of the world's air passenger traffic. This is as far as most aviation forecasters are prepared to go

at this stage, but all the trends are upwards. Already, in some parts of the world, the rate of air traffic growth is well in excess of the average of 6 to 8 per cent. per year forecast by the International Air Transport Association, and there seems little reason to doubt that, subject to any unforeseen economic disasters, the growth will continue to rise.

Similarly with military aviation. Despite the emphasis placed in some quarters on the need to cut defence spending, and on Strategic Arms Limitation and Mutual and Balanced Force Reductions, there are now strong pressures being generated, especially at U.S. insistence where NATO is concerned, on the need for a build-up of European conventional forces to counter a similar development by the Warsaw Pact countries. At the same time, spending on armaments in the countries of the Third World shows few signs of diminishing, and in some places is positively increasing. The world's military aircraft and guided weapons industries, therefore, seem likely to find a continuing high level of business, with the numbers of military aircraft to be built in the decade ahead exceeding those of the past, if only because of the need to replace existing ageing and outdated equipment besides meeting requirements for additional weapons. Estimates of likely military aircraft deliveries are difficult to come by, but U.S. sources indicate the possibility of no less than 6,000 combat aircraft being built between now and the late 1980s—a figure which does not seem unrealistic when it is considered that the U.K., West Germany and Italy alone will be buying no less than 800 of the new Tornado Multi-Role Combat Aircraft to replace existing ageing types in their air forces.

Similarly in helicopters, the trend will be upwards, with the emphasis particularly on the civil side, not only in the expanding offshore oil and gas industries but also in the growing corporate business and executive markets. Space research, too, will get increasing attention, as the world recognises increasingly the growing spectrum of uses to which the unmanned satellite can be put to help improve such things as communications, weather forecasting, earth resources monitoring and



Eastern Airlines of the U.S. is leasing four A300 "whisperliners" and will be the first to operate these wide-body jets in the U.S. They will enter service in November.

navigation.

All these trends indicate a substantial and continuing volume of business for the world's aerospace industries in the years immediately ahead.

The big questions are: how will all this business be financed, and how will it be divided between the bitterly competing individual industries in the various countries? Will the lion's share go to the handful of large manufacturers in the U.S. who are already manoeuvring for the best positions in the coming struggle, or will it be more evenly divided as a result of more extensive international collaboration, both intra-European and transatlantic, and will help not only to British Aircraft Corporation, widening markets but also spread

the burden of rising costs? These are the questions to which visitors to the forthcoming Paris Air Show will be seeking answers.

It is against this background that the positions of the various aerospace industries throughout the world must be examined. Their situations are outlined in detail in this survey. But so far as the U.K. itself is concerned, the most important recent development has been the long-awaited nationalisation of a large section of the aeronautical industry, with the takeover by British Aerospace of Hawker Siddeley Aviation,

Nationalisation

is wholly Government owned through the National Enterprise Board. The only substantial airframe elements left outside State control are the Westland Aircraft group of Yeovil, primarily engaged in helicopter and hovercraft, and the Fairey Britten-Norman light transport aircraft builder of the Isle of Wight. The new British Aerospace collectively employs some 60,000 workers, and it has on the stocks at present no less than eight

Hawker Siddeley Dynamics and Scottish Aviation. As a result, a vast proportion of the entire U.K. industry is now in Government hands, for Short Brothers Harland of Belfast is already majority-owned by the State, while Rolls-Royce is wholly Government owned through the National Enterprise Board.

It is the aim of Lord Beswick, chairman of British Aerospace, to ensure that this situation continues, both in the civil and military spheres. In the civil field, he has been actively engaged in talks on international collaboration across the as the Boeing 7N7 and 727

civil aircraft, including the Concorde; eight military types, including the Tornado multi-role combat aircraft; eight guided weapons, and a handful of space research activities, primarily in the unmanned earth satellite field, for scientific and applications technology roles. Of these, many are already international collaborative ventures — Concorde (with France), the Tornado (with West Germany, Italy and France), the Jaguar fighter (with France), the Martel guided weapon (also with France), and the A-300 Airbus (with France, West Germany, Holland and Spain), while the satellites are mostly for the international European Space Agency.

When allied to the international programme being undertaken by the other companies—such as the work on Fokker F-28s and on RB-211 engine pods for TriStars by Short Brothers; the Fairey Britten-Norman Islanders being built in conjunction with Belgium, Romania and the Philippines; and the Anglo-French helicopter programme by Westland—quite apart from the many international engine ventures being undertaken by Rolls-Royce, the U.K. can reasonably claim that by far the biggest proportion of its total aerospace output is collaborative.

Eleven, while there are also discussions on a renewed U.K. Government stake in the European Airbus Industrie consortium, and on the possibilities of the civil and other major new ventures now mooted national collaboration across the as the Boeing 7N7 and 727

broad spectrum of options open to the world's airlines, from the 80-130 seater, through the 120 category up to the bigger 180-200 plus seaters that are likely to be needed for the future. It is likely that these discussions will continue for some time to come, before the number of projects on offer to the airlines can be narrowed down to a number they can use fully digest, and from which they can make up their minds to buy.

Imperative

What is imperative so far as British Aerospace is concerned is that it achieves a broadly balanced programme of new civil activity within the next year or so, with which to replace the now rapidly declining volume of existing civil work on One-Elevens, Trident and Concorde. While the possibility cannot be discounted of British Aerospace "going it alone" on one or more of these civil ventures, if it sees a major market emerging but cannot find a partner willing to accept a share of the inherent risks, the trend is more likely to be collaborative.

Already the salesmen are out seeking orders and possible partners for such prospective new ventures as the BAC X-15, while there are also discussions on a renewed U.K. Government stake in the European Airbus Industrie consortium, and on the possibilities of the civil and other major new ventures now mooted national collaboration across the as the Boeing 7N7 and 727

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THROUGHOUT THE world's aerospace industries, much attention is now being paid to the problem of what new airliner programmes to undertake to meet the anticipated expansion in air traffic of the 1980s and beyond.

For several years and particularly since the oil crisis of late 1973 and the subsequent industrial and economic recession, there has been a marked slackening of orders for new jets as the world's airlines passed through an exceptionally difficult time of slower, or even in some cases zero, traffic growth, and steeply rising costs. There are now signs that the tide has turned, and that from now on the airlines, and hopefully the aircraft manufacturers, are in for a better time. In the U.S. particularly, the big domestic airlines, with improving financial situations, are phasing out some of the older jets to their fleets, and replacing them with new ones. This, so far this year, has resulted in a sharp inflow of new business for the major American manufacturers, particularly Boeing and to a lesser extent also McDonnell Douglas, although the latter and Lockheed are both still having a tough time in finding new customers for their DC-10 and TriStar tri-jets. This improvement in buying is welcome to manufacturers who have been suffering considerably from the hiatus in buying of the past few years and as a result, both Boeing and McDonnell Douglas have recently announced increases in the production rates of their jets, especially the short-to-medium haul Boeing 727 and McDonnell Douglas DC-9, to become effective by the end of this year and early next.

The reasons for this demand for updated versions of existing jets is that they are well tried and trusted products which the airlines like, and that provided they can be sufficiently modernised to improve their fuel-efficiencies and noise levels to accord with rising fuel costs and increasingly stringent noise

legislation throughout the world, the airlines are prepared to go along with them, rather than risk substantial sums of borrowed money to finance the development and introduction of ever more advanced jet concepts for the future.

So far, the major airlines in the U.S. appear to have turned away from the concept of re-fitting existing old airframes with new engines, as being too expensive in direct costs for the limited improvements in performance that can be obtained. They are preferring instead to settle for replacement, and there is no sign so far of any major airline in the U.S. or elsewhere breaking out of this pattern. The big question that has still to be answered is how long the airlines, U.S. and foreign can go on buying updated models of existing jets before they are obliged to consider seriously the new types that the makers are offering for the longer-term future. All the forecasts indicate a broad doubling of world air passenger traffic by the mid-1980s, creating a demand estimated by Boeing at \$56bn for upwards of 3,000 new aircraft, of which about \$21bn will be for the replacement of existing ageing jets and the rest for new aircraft to meet the traffic expansion. McDonnell Douglas's forecast broadly agrees, but it sees rather more aircraft, about 4,200, being needed. But both agree that the biggest demand will fall in the short-to-medium haul category.

Expansion

But the fact is that the airlines, while agreeing on the likely expansion, and on the eventual need for quieter and more fuel-efficient aircraft, are in no hurry to become enmeshed in the manufacturers' plans. They argue that they have not yet experienced a long enough period of high profits to replenish their coffers or to encourage the financial institutions to lend them the large sums necessary to pay for big new fleets. Moreover, they are finding the large number of new designs on offer by the manufacturers confusing, while there are different ideas among the airlines themselves as to precisely what they want to see in terms of range and payload performance, as well as widely different time-scales of need. Thus, to a large extent the manufacturers are working in a vacuum on their new ideas for the future. They are having to woo airlines to buy airliners they do not really want with money they do not have.

This situation has some serious implications for the manufacturers, none of whom is at present able to say when any of their proposals are likely to be given the go-ahead. Boeing, which is working on two concepts—the 7N7 plan for a twin-engine jet, and the 7X7 plan for a family of three-engine airliners—is not yet able to say which of these two it will build first, and development is proceeding simultaneously on both, with over \$100m spent so far. The company says, however, that it is sufficiently far down the road to be able to settle on either, depending entirely on the way the market itself moves.

Boeing's problem is that no matter which of its new ventures it launches first, it will be bound to either kill off entirely, or at least hurt badly, the sales of the 727 and perhaps also its smaller short-range 727, at a time when these are still selling well. For its new ventures, in their various versions, cover much of the range-payload performances of those older jets. Thus, Boeing has to be particularly careful of assessing its market, and it is certain that it will not move until it has "launched orders" from at least two and preferably three major airlines, preferably inside the U.S. The development costs are so high—\$850m for the Boeing 7N7 and \$1.5bn for the 7X7—that Boeing would in fact be risking its entire net worth in launching either programme. McDonnell Douglas is in a similar position. It is working on three basic new ventures. One is a stretched version of the DC-9, called the Dash 55, intended to carry 194 passengers up to 1,850 nautical miles. This will cost about \$100m, to

participate in the U.S. programme, they will also insist on their flag airlines buying a big chunk of a vital programme for perhaps as many as 10 to 20 years, during all of which time it will be imperative for the parts involved to be shipped to the final assembly lines on time and on cost. Failure on the part of a European participant to meet its commitments could be disastrous for the U.S. company concerned. Until this problem of higher inflation in Europe can be put under control, and the industrial relations records improved, the U.S. manufacturers do not seem likely to risk major collaborative ventures. There is indeed a school of thought emerging among some executives in the U.S. industry that any new jet programmes would be better done solely in the U.S., where cost and time-scale control over them would be easier to ensure. Any agreements finally made with the European industry are likely to lock the latter into some tough conditions and financial penalties for any failure to meet the exacting schedules the U.S. manufacturers are likely to lay down.

NEW AIRLINER DESIGNS UNDER CONSIDERATION

Table with columns: Aircraft, Seats (approx.), Max range (nautical miles), Possible engines. Includes models like Hawker HS-146, Fokker F-29, Douglas DC-9-55, BAC X-Eleven, Aerospatiale A-200, Boeing 7N7-119, Boeing 7N7-120, Boeing 7N7-143, Dassault ASMR (Mercur), Boeing 7X7 trijet, Boeing 7X7 twinjet, Airbus A300-B10, Douglas DC-X-200, Lockheed L-1011-400, Lockheed L-1011-600, Boeing 707-500, Douglas Super DC-10, Boeing 727, Boeing 737, Airbus A300, Douglas DC-9, Lockheed L-1011, Boeing 707, Douglas Super DC-10, Boeing 727, Boeing 737.

* Engine makers are: Rolls-Royce (RB-211s, 535s and 432s); General Electric (CF-6s and CF-680s); Pratt & Whitney (JT-9Ds, JT-9Ds and JT-10Ds); and CFM International (CFM-56s).

develop and a decision is likely to be taken later this year. The second venture is the DC-X-200, a 200 passenger twin-engine design derived from the DC-10 and capable of carrying its load over 1,800 nautical miles. The third is a Super DC-10, a stretch of the existing model to carry up to 335 passengers. McDonnell Douglas also has some longer-term plans, for a civil derivative of its YC-15 four-engine freighter now under development in an Air Force competition with Boeing to find a replacement for the ubiquitous Lockheed Hercules.

The third major U.S. manufacturer, Lockheed, which is already building a long-range Dash 500 version of the L-1011 TriStar, has plans for two new derivatives—the Dash 400, a three-engine, 200-250 passenger aircraft capable of 2,700 nautical miles range, and the Dash 600, a twin-engine aircraft with the same range-payload performance. A feature of the plans of all three U.S. manufacturers is international collaboration with Western Europe, and perhaps also other aerospace companies as far afield as Japan. The reason is that the cost of the new ventures is so great that the wider it can be spread the better. This also helps to ensure a wider market, on the assumption that if foreign governments put up the cash to enable their aircraft industries

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They remain the question of whether the industry itself grouping more closely in a bid to compete with the U.S. in the long term. The basis for this is the connection already for some time between Airbus, which is building the A-300 short to medium haul jet and has developed derivatives of it, and the U.S. industry. At present, the U.S. is only a party to that connection through Hawker Siddeley's contract to build the wings for it as a private venture, and to undertake an overall design consultancy role. There has been pressure on the U.K. Government to re-enter the Airbus programme on a formal basis, that would give the U.K. a bigger share of any future programmes Airbus Industries may attempt, such as the long-haul and B-11 long-haul versions.

One of the problems here is what financial contribution the U.K. is expected to make. There has been a suggestion that it should pay an entry fee by contributing something to the past costs of the consortium, as well as financing its share of any future work undertaken. This has so far been resisted by the U.K. It seems clear that there will have to be some substantial further negotiations before any final settlement can be reached.

In the meantime, the U.K. continues its discussions with the U.S. industry, and it is possible that at the end of the day, the U.K. will find itself participating in more than one international venture—perhaps one in Europe and two in the U.S. or vice-versa. Certainly, the U.K. wants to work across the entire spectrum of civil aerospace, with particular emphasis on the 80-120 seat, 1,800-2,000 nautical mile range categories. All this is said for certain at the moment, but the talking is still going on, and that it may be some time yet before any final conclusions are reached. Every thing will depend upon the way in which the airline market itself moves. But so far, there are no signs of any imminent decisions on the procurement of new jet airliner concepts for the 1980s and beyond.

Ideas

So far, none of these discussions has materialised into firm commitments. Not are they likely to do so for some months to come. It is likely that at the forthcoming Paris International Air Show there will be much further discussion between the senior executives of all the companies involved, and that even some major decisions may emerge. One of the problems in the European industry, however, that is giving the U.S. makers some cause for caution, is the high inflation rate prevailing, especially in the U.K., and in some countries (again including the U.K.) poor industrial relations records also. What any U.S. manufacturer must take into account is that by collabor-

ating with any European company it will be handing over a big chunk of a vital programme for perhaps as many as 10 to 20 years, during all of which time it will be imperative for the parts involved to be shipped to the final assembly lines on time and on cost. Failure on the part of a European participant to meet its commitments could be disastrous for the U.S. company concerned. Until this problem of higher inflation in Europe can be put under control, and the industrial relations records improved, the U.S. manufacturers do not seem likely to risk major collaborative ventures. There is indeed a school of thought emerging among some executives in the U.S. industry that any new jet programmes would be better done solely in the U.S., where cost and time-scale control over them would be easier to ensure. Any agreements finally made with the European industry are likely to lock the latter into some tough conditions and financial penalties for any failure to meet the exacting schedules the U.S. manufacturers are likely to lay down.

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Upwards

Continued from previous page. families of jets, or the no sudden changes, but that One is the need for adequate funds with which to finance the anticipated growth. So far as the airlines are concerned, the established financing institutions, such as the banks and insurance companies, will be looking for a sustained period of profits before they will be ready to lend the vast sums needed to build and buy new airliners for the future. On the ground, Governments will find themselves under pressure to provide funds for the improved infrastructure that will be needed—such as expanded or even new airports, and improved safety and en route navigational aids. They will be pressed for such funds at a time when the world's aerospace industries will also be seeking more cash to finance the new military aircraft and guided weapons developments that lie ahead. Collectively, therefore, the cash requirements of the world's aerospace and airline industries in the years to come could be far in excess of the sums spent by those industries hitherto. This, in turn, is likely to raise questions on the part of govern-

ments and public alike as to the justification for such high levels of spending, at a time when other calls on the public purse are likely to be rising. It thus behoves the aerospace manufacturing and airline industries to be ready with their answers—otherwise, some part of the funds they need may not be forthcoming.

It is against this background that the forthcoming Paris International Air Show will be held. It is likely to prove undramatic in terms of the numbers of new shapes to be seen in the sky over Le Bourget or in the Static Aircraft Park. But it may well prove to be one of the most significant yet held on account of the discussion that will be going on in the chalets overlooking the airfield where the future activities of only of individual companies but also of individual industries may well be settled for years to come. This year's show-off of world aerospace development, and although its importance may not be immediately apparent, it is likely to be for many years to come.

Michael Dimes

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Upwards CONTINUED FROM PREVIOUS PAGE

families of jets, or the no sudden changes, but that One is the need for adequate funds with which to finance the anticipated growth. So far as the airlines are concerned, the established financing institutions, such as the banks and insurance companies, will be looking for a sustained period of profits before they will be ready to lend the vast sums needed to build and buy new airliners for the future. On the ground, Governments will find themselves under pressure to provide funds for the improved infrastructure that will be needed—such as expanded or even new airports, and improved safety and en route navigational aids. They will be pressed for such funds at a time when the world's aerospace industries will also be seeking more cash to finance the new military aircraft and guided weapons developments that lie ahead. Collectively, therefore, the cash requirements of the world's aerospace and airline industries in the years to come could be far in excess of the sums spent by those industries hitherto. This, in turn, is likely to raise questions on the part of govern-

Profits

Apart from the problems at home stemming from the U.K.'s own aerospace reorganisation, and the need to establish new collaborative relationships for the future, the world's aerospace industries collectively face several other major problems in the years ahead.

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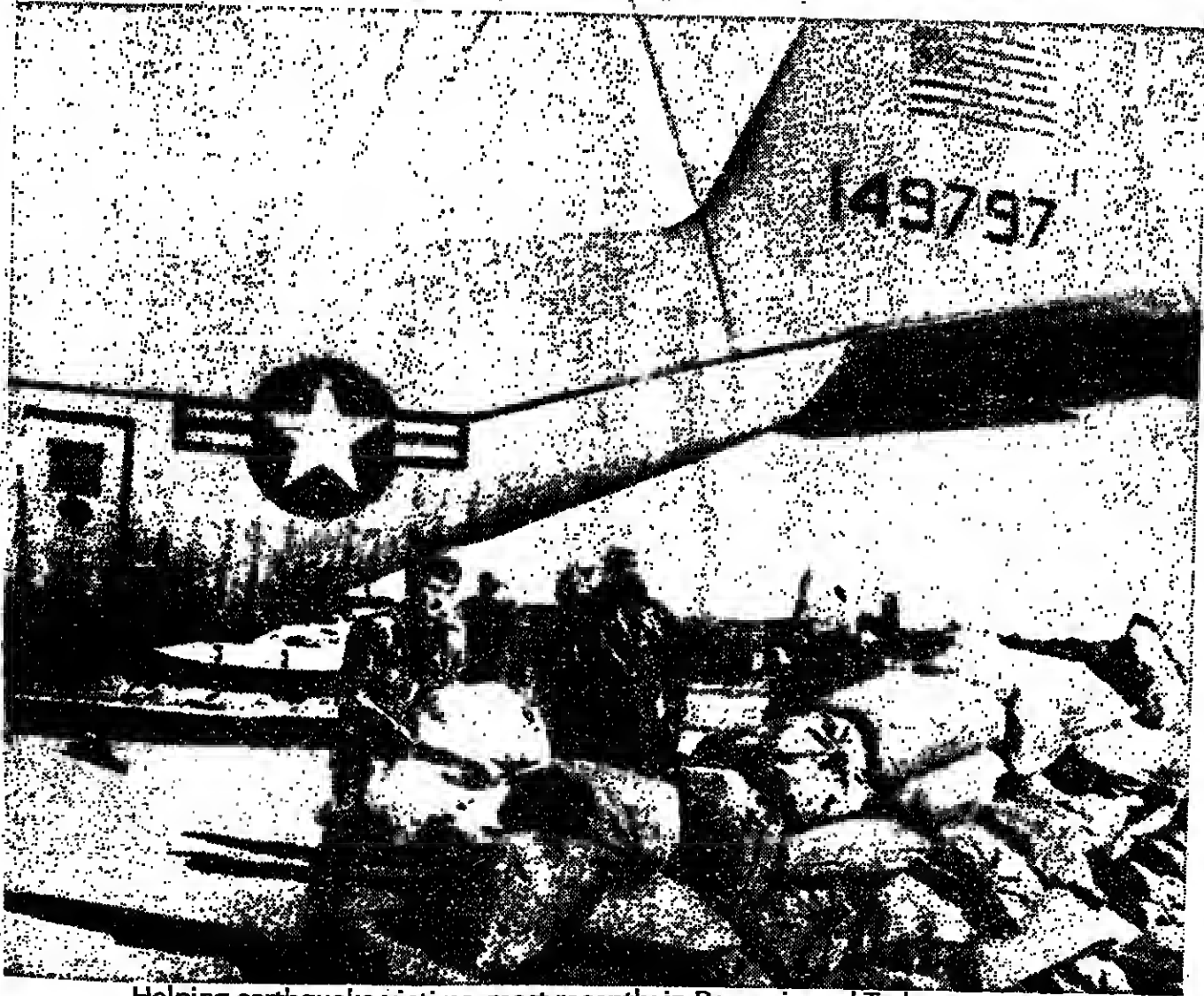
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AEROSPACE IV

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Lord Trenchard

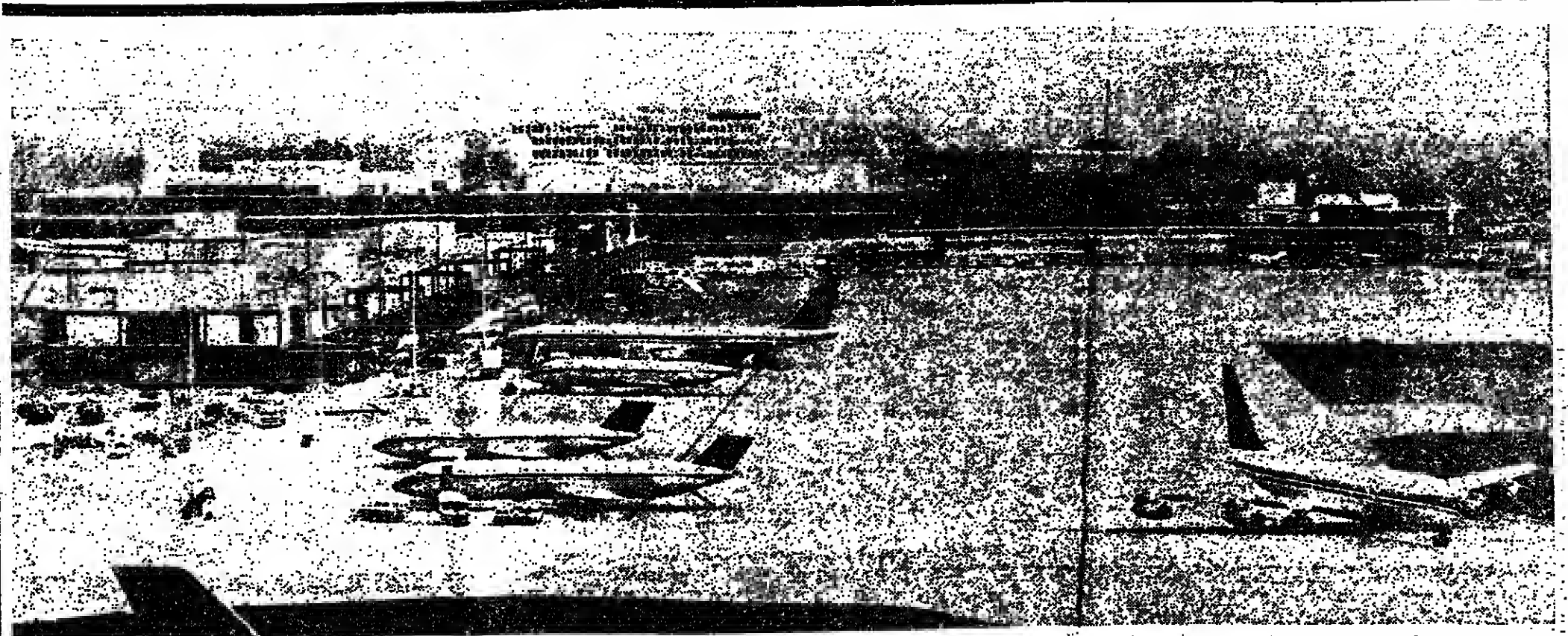
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A major £100m. redevelopment programme at London's Gatwick airport is now nearing completion, which will enable that airport to cope with up to 16m. passengers a year and thus take much of the strain off London's Heathrow. The picture shows the new Central Pier under construction at Gatwick.

Airports feel the strain

SOME TIME later this summer, the U.K. Government is expected to publish its long-awaited proposals for a long-term Airport Strategy for Britain. This plan, which is being laboriously evolved from an unprecedented scale of consultation between the Government and the various interested bodies such as airlines, the British Airports Authority and local authorities round existing airports and various environmental groups, is expected to show how the Government proposes to cope with the anticipated expansion of air traffic into and out of the U.K. in the period up to the end of this century and into the next. The necessity for such long-term thinking stems from two factors—first, the scale of the anticipated growth, and secondly, the exceptionally long development times involved in airport construction — it ca...

take as much as seven to ten years from initial conception of an airport (or even an airport extension) before it is completed and in regular service. AS to the scale of the problem, there is little disagreement: it will be vast, although individual estimates may vary. The Government's own views, set out in the original Consultation Document published in late 1975, have not changed significantly. The document indicated that a total of some 50m. passengers a year might be using the airports in the South-East of England between 1981 and 1996, of which 30m. would be using Heathrow, some 16m. would use Gatwick, 3m. at Luton north of London and about 1m. at Stansted in Essex. The "high forecast" was that this volume of traffic could be reached by 1981. Beyond that, it was estimated that overall traffic might rise further to a level of 58m. passengers a year by 1983, and further to about 70m. by 1986, with further increases thereafter until by about 1990 there might be as many as 100m. or more people a year crowding into those four airports. If that latter forecast proved to be true, it would mean that Heathrow would have to be handling 53m. a year, compared with the present 23m., and that there would have to be massive further expansion at Gatwick to make it capable of handling 25m. passengers a year against its present maximum capability of 16m. At the same time, Stansted would have to be raised to 16m. passengers a year, and Luton to a capacity of 10m. These are, of course, only forecasts of possibilities, but the figures are none-the-less formidable. The first question is: are they likely to be achieved, or are they unrealistic? The answer is that all the current trends in civil aviation indicate that they are likely to be achieved.

Capacity

So far as coping in the South-East is concerned, the Government has already completed, through the British Airports Authority, a £100m. expansion programme at Gatwick Airport, south of the metropolis, to raise that airport's passenger capacity from 6m. to 16m. a year, and it is now also negotiating with various foreign governments—the U.S., Canada, Spain and Portugal, for example, with others to follow—on how to increase the number of international services using Gatwick, thereby taking some of the pressure off Heathrow. At Heathrow, a £50m. expansion programme is also nearing completion, which will provide for smoother traffic flows through the three main passenger terminals, with the provision of an underground rail link directly into the Central Terminal Area that will put the airport onto the entire London underground railway transport system. These developments, due to be completed by the end of this year, will raise the capacity of Heathrow from the present 23m. to about 30m. But there is also a £30m. programme to enable Heathrow to grow further to the 38m. passengers a year that seems likely to be needed by the mid-1980s. There are plans for a fourth terminal, to be built on the South-East corner of the airport, that will be capable of handling up to about 8m. passengers a year. The U.K. Government has made it clear that it has no intention of permitting this fourth terminal to be built until the recently-increased capacity at Gatwick is more fully utilised—in other words, to its capacity of 16m. a year before any new terminals will be allowed at Heathrow. This indicates that many airlines currently using Heathrow will be obliged in the years ahead to shift some if not all of their operations out of Heathrow into Gatwick—a situation that is likely to be fraught with political and financial implications. The Government is well aware of this and is trying to encourage airlines to move rather than force them out to Gatwick. It has the advantage on its side that as congestion grows at Heathrow, many airlines, and passengers too, may well feel the greener pastures of Gatwick beckoning strongly. But even with this shift in traffic from Heathrow to Gatwick, the decision on the fourth Heathrow terminal will have to be taken before 1980, simply because it will take several years to build. Thus, there is another reason for the Government producing its long-term plan this year, so as to get agreement on what needs to be done well before the deadline occurs. Into this situation, also falls the controversial position of Stansted, an airport north of London, with a 10,000-foot runway that is ideal for expansion, but which has not been developed so far because of the concentration on Gatwick and Heathrow. Some years ago, even before the Stansted Airport controversy began, suggestions that Stansted should be developed as the third airport for London resulted in a vigorous opposition campaign, with the result that the idea was abandoned. The Stansted Affair, as it came to be known, was followed by the Roskill Commission, to determine the best site for an airport near London. Roskill suggested Cullington, in the Vale of Aylesbury, but that proposal was abandoned because of local antagonism, that it was abandoned in favour of putting a third London Airport on reclaimed land off the Essex Coast at Maffins. Work began on Maffins, but again environmental objections proved to be too strong at a time also of scarce national resources, that the project was also abandoned in 1974, at a time of oil crisis and industrial recession. But continual abandonment of the successive proposed solutions to the air traffic problems have not either solved the problem or sent it away. As time goes on without a solution, the problem itself is compounding, as a result of the improving world economic climate. At the same time, the environmental lobbies round Heathrow and Gatwick are themselves rousing vigorously to "cry enough," and there seems little doubt that they will not take kindly to seeing their own sufferings increased whilst Stansted escapes development.

Controversy

The likelihood is, therefore, that in the airports situation in the South-East, there is once again the makings of a major social controversy, with the communities around Heathrow and Gatwick arguing that it is against natural justice for Stansted to be left unscathed, and the lobbies round Stansted fighting vigorously, as they did in East Essex, to stave off further airport development there. It is in this situation that the Government will have also to make its proposals for expansion of air traffic in the regions in a bid to "take the heat" off Heathrow and eventually also Gatwick, but even in those regions there are likely to be major objections to further airport development, as has been seen over the row that has developed over the plan to spend £25m. on developing a new second runway for Manchester. The point about the current airports policy situation is that it has always been an unpalatable issue, fraught with political problems for the Government of the day, and becoming even more intractable as environmental groups become more articulate and well-informed and sure of the justice of their cause. The real difficulty comes from the fact that air traffic growth is itself an irresistible force, so that where the two meet there is always likely to be trouble. It is this situation that the Government is now trying to resolve. What its proposals will be, no one yet knows. But what is clear is that the argument over airports policy will run on for years to come. Indeed, it is doubtful whether they will ever be entirely satisfied. Some airports policy, the Government is really on a hiding-to-nothing, but it is an element economic and social development in the U.K. that cannot be ignored.

Debate

It is against this background that the whole airport debate in the U.K. must be viewed. This is why the Government has taken such pains to consult over a long period of time with the various interested bodies, in the hope that it will be able to produce a coherent long-term strategic plan for airport development that will be able to proceed without becoming caused by objections to various aspects of the proposed developments. In this situation, the U.K. Government is looking at a series of options. One is to see just how far part of this expected traffic growth can be accommodated at the regional airports, either by expanding those airports together with the services they provide, or by building new airports in different parts of the country (for example, in Northern England or in the West Country). The second is to see just how the anticipated growth that the South-East will be called upon to bear can itself be divided between the airports available, or whether even in the South-East the whole vexatious and controversial issue of an additional airport should be raised. A third option, which no-one talks about very much but which must loom in the background, is the possibility of rationing air traffic, so as to prevent being swamped by visitors and to keep a control upon the rate of growth. This is the most difficult option of all to consider. Air transport is an international business. The pressures felt at home are in fact generated overseas, and for the U.K. deliberately to cut itself off from air transport growth is to cut itself off from economic growth, and to relegate itself to the status of an economic backwater. But nonetheless it is an option that may have to be considered in the 1990s if growth rates accelerate even beyond the present expectations.

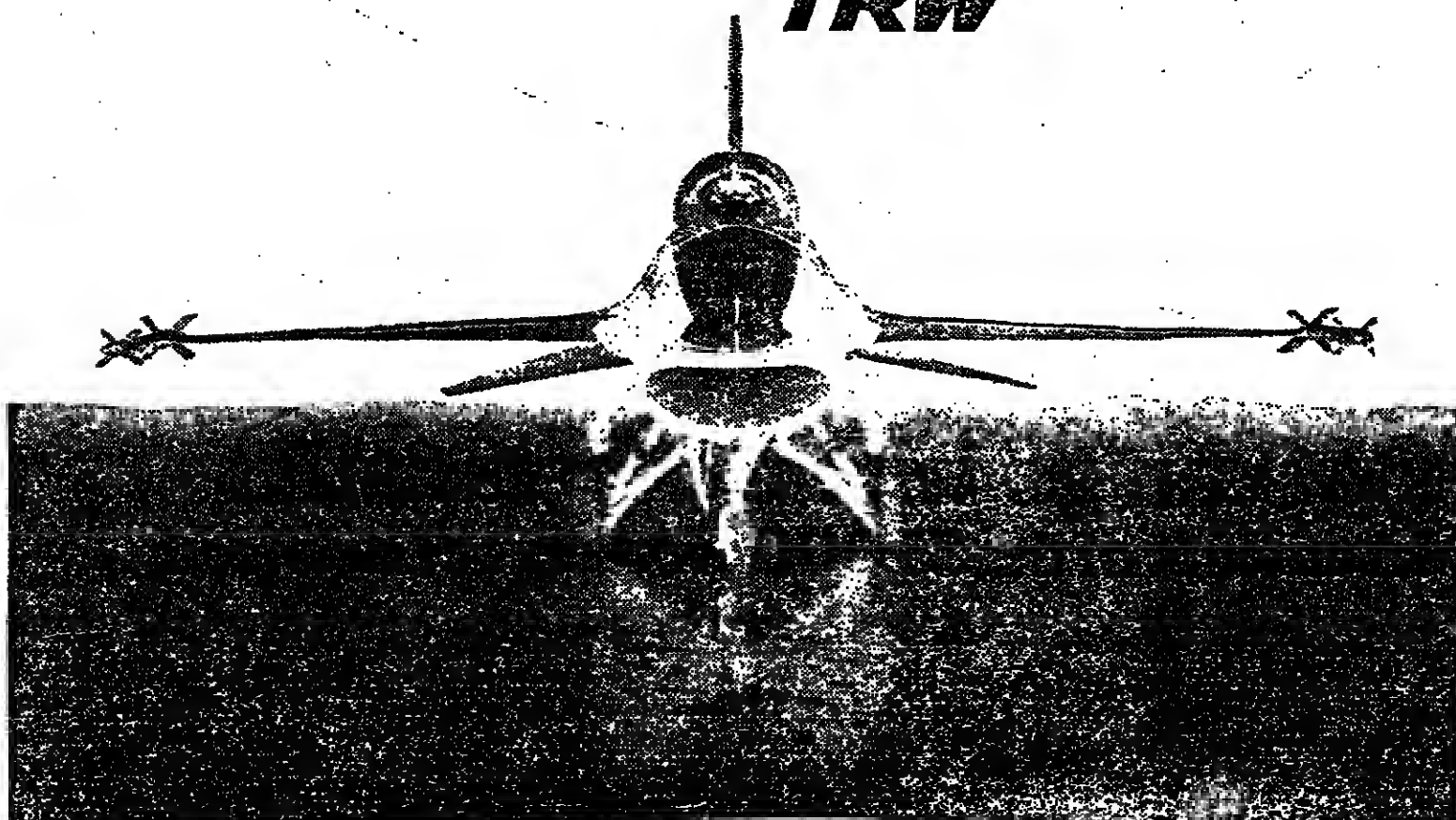
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New demands face engine designers

THE WORLD'S aero-engine manufacturers are now facing the most challenging and competitive eras in their history. A new bout of jet buying is their needs from the early 80s through to the end of this century and beyond.

That makes this period so important for the engine builders is just the size of the market—estimated to amount about £10bn, or about one-third of the estimated total market of about £30bn for all kinds of aircraft between 1985 and 1995—but also because the technological challenges it represents.

There are mounting pressures for quieter engines, led by new noise legislation in the U.S. and the plans for a stringent international regulations now being devised by the International Civil Aviation Organisation, together with the growing need for less "thirsty" engines. These are ensuring that the engine companies (Rolls-Royce, Pratt and Whitney, General Electric, Turbomeca, Motoren Turbinen Union and Fiat) being pushed to the limits of what is needed now for the 1980s, but for the job into the next century.

Engines that are on the drawing boards to-day will be those that will enter service in five years or more ahead. So they must be capable of meeting not only the requirements laid down now, but also those that may be introduced at any time during the period between now and the end of the century.

The engine designers in the engine companies are already responding to the challenge. But they have one great problem—lack of available cash to do what they want to do, or are able of doing. It can cost up to £500m nowadays to develop from scratch a new engine, in the "big thrust" category of, say, 30,000 to 50,000

lbs. While engines of lower thrust ratings cost proportionately less, they still can cost substantial sums, measured in hundreds of millions of pounds.

There are two results, both of which can be seen in the aero-engine industries to-day throughout the world. One is the emphasis on international collaboration, aimed at spreading the burden of costs while widening the potential market. The other is the trend towards production of "derivative engines," that is, engines that as far as possible use much of the technology of previous power-plants, while incorporating such new engineering know-how as is required to make them noise- and fuel-compatible with the needs of the airlines, Governments and environmental groups.

Understanding

Both these concepts are worth exploring in some depth, because they are vital to any understanding of the whole future of the aero-engine business. So far as "derivative" engines are concerned, all the world's biggest engine builders, Rolls-Royce and Pratt and Whitney and General Electric of the U.S., have followed this path. Rolls-Royce, which has produced a wide variety of thrusts in its RB-211 engine, ranging from the original 40,000 lbs. up to the latest Dash 524 of about 50,000 lbs is now also working on a "derivative" version of 32,000 lbs called the Dash 535.

Similarly, GE, which has produced its highly successful CF-6 Series with similar ratings, is now also offering the Dash 32 version, of around 30,000 lbs thrust. Thus, both these companies are in a strong position to bid for the wide range of new airframe designs emerging from the manufacturers.

At the same time, Pratt and Whitney is moving ahead on its new 29,000 lbs thrust JT-102 engine, also a candidate for

many of the prospective new airframe designs now on offer to the airlines, while the most recent entrant to the business, CFM International (jointly owned by Snecma of France and General Electric of the U.S.) is offering its lower thrust engine, the CFM-56.

At the same time, all the established manufacturers are continuing to offer their existing engines in various thrust ratings—the RB-211, the JT-9D and the CF-6 Series—so that there are almost as many engine variants on offer to the airlines as there are airframes. Just what final combinations the airlines will choose for their aircraft of the future remains to be seen, but what is already becoming clear is that the engine side of the business will be the pacing factor in new aircraft decisions. For while the airframe builders can produce some substantial innovations in design to improve range/payload performance, such as "supercritical" wings with improved airfoil shapes to reduce drag and thus help improve fuel consumption, it is really the engine makers who will be ultimately responsible for the major breakthroughs in noise and lower fuel costs.

Within this overall situation, there are some significant engine developments worth considering more closely, because they are likely to be heard of frequently in the future. One is the JT-10D, originally a joint development by Rolls-Royce of the U.K. and Pratt and Whitney of the U.S., but now solely the responsibility of the latter company. The partnership between them was dissolved recently on an amicable basis, simply because of a divergence of view as to the likely requirement for the next generation of civil aircraft. Pratt and Whitney felt that 29,000 lbs thrust was about the right level at which to aim for the future, whereas Rolls-Royce came to believe that 32,000 lbs was more logical, and that this

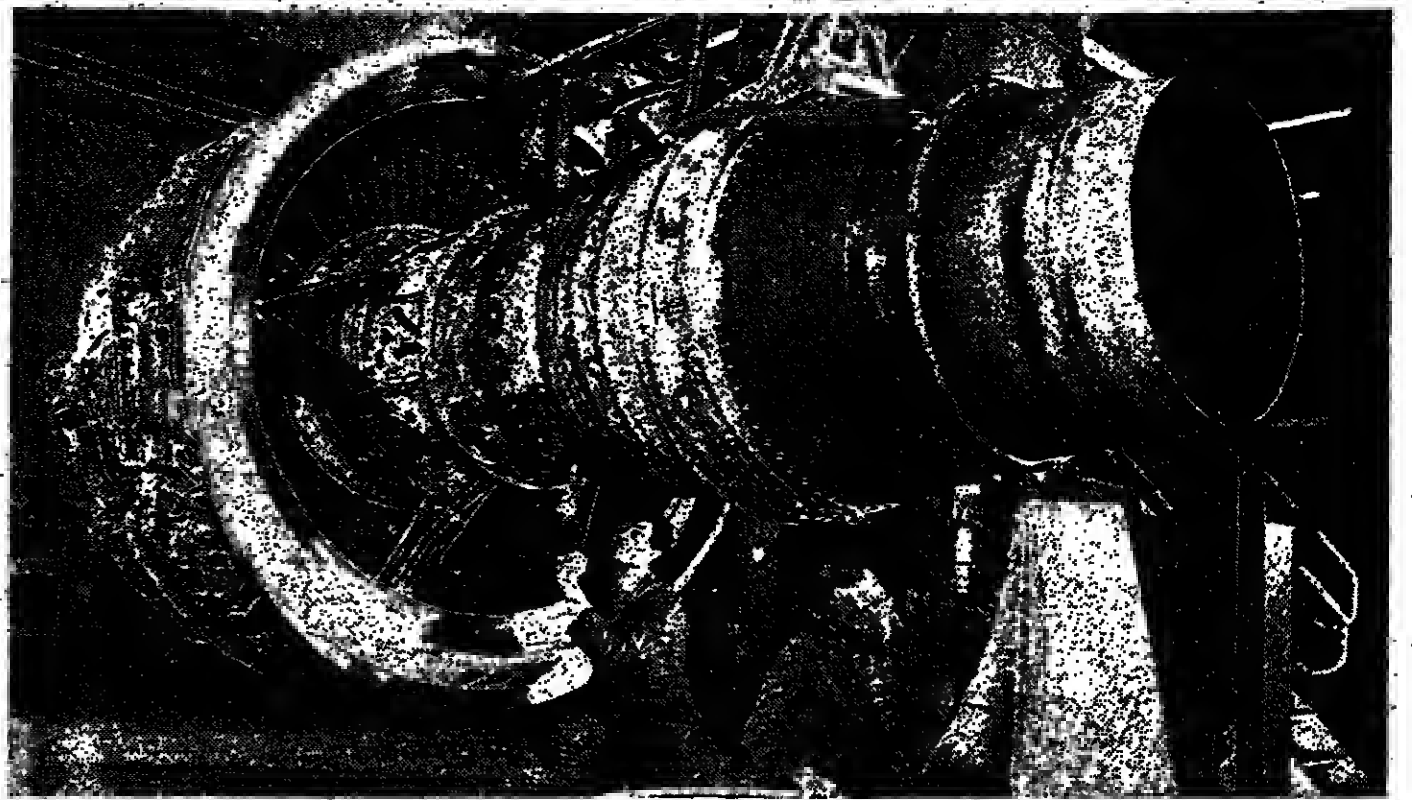
could be achieved just as conveniently by derating its existing RB-211 engine (in the Dash 535 version) as by developing a totally new powerplant like the JT-10D. Henceforth, each company will be competing in the market for the next generation of jets with its own products. Rolls-Royce with the Dash 535, and Pratt and Whitney with the Dash 4 version of the JT-10D.

The dissolution of this partnership, however, does not preclude collaboration between these two companies on other programmes either now or in the future. They still remain close in many ways—not least on the Pegasus vectored-thrust engine for the next generation of AV-8B Harrier vertical take-off fighters for the U.S. Marine Corps, while it is also being suggested that there might still be collaboration between them on the Dash 535 or further derivatives of the RB-211 family.

Examples

The principle of collaboration, however, is not a new one in the engine business. Rolls-Royce has been working closely for many years with engine manufacturers on the Continent on a wide range of power-plants. Significant examples include the RB-199 engine for the Anglo-West German-Italian Tornado multi-role combat aircraft (which is being built by Turbo-Union, a consortium in which Rolls-Royce is joined by Motoren und Turbinen Union of West Germany and Fiat of Italy), and the Adour turbo-fan engine for the Anglo-French Jaguar jet strike-trainer; being built by a consortium comprising Rolls-Royce and Turbomeca of France.

In addition to this kind of all-European partnership, however, a major new Franco-American collaborative venture has emerged between Snecma, the big French engine company,



Rolls-Royce RB-211 turbofans have take-off thrust ranging from 32,000 to 53,000 lbs. The RB-211-524, seen here, is now entering service in the extended range TriStar and British Airways' long-range Boeing 747.

and General Electric of the U.S., who have founded CFM International, to develop the CFM-56 engine, with an initial thrust of up to 22,000 lbs. The CFM-56 is a significant contender for some of the new airframe designs now on offer to the world's airlines, including, particularly derivatives of the Boeing 707 airliner and prospective long-range versions of the A-300 European Airbus, while it is also being test-flown in the McDonnell Douglas YC-15 AMST.

In the meantime, the world's major engine companies continue to produce derivatives of their existing engines in an almost bewildering number of versions, designed to meet virtually every conceivable requirement, actual and potential, of the airframe manufacturers and the airlines.

One of the most important of these from the U.K.'s viewpoint is the Dash 524 version of the Rolls-Royce RB-211, which has just been given its Certificate of Airworthiness by the U.S. Federal Aviation Administration for use in both the Boeing 747-200B Jumbo long-range jet and in the Lockheed Series 500 model of the L-1011 TriStar.

British Airways is the first airline to order the 747 with the Rolls-Royce engines, and in the course of test flying, the Rolls-powered 747 set a world record for maximum mass lifted to

6,652 feet altitude, when it took off at a gross weight of 840,500 lbs, or more than ten tons over the 747's normal maximum gross take-off weight.

Pratt and Whitney has also been active in developing new versions of its existing engines. At the same time, a reduction in specific fuel consumption of up to 9 per cent, compared to current models is obtained, along with a significant reduction in pollutant emissions. This higher thrust and lower specific fuel consumption is expected to result in the development of new aircraft with significant fuel savings per seat-mile.

Analysis

While Pratt and Whitney has its Dash 209 version of the JT-8D, Rolls-Royce recently revealed that it was also working on a new series of engines in the same broad thrust category of about 18,000 lbs., called the Series RB-432. This family of engines is expected to be suitable for such future airliners as the Hawker HS-125 feeder-liner, and will also rival the Dash 209 and the CFM-56 as a candidate for use in many of the other prospective new airliners for the future. Further details of this new family of jets is likely to be given by Rolls-Royce during the forthcoming Paris Air Show.

Three main points emerge from any analysis of the

current aero-engine scene. The first is that it is the engine builders who will be setting the pace for the future development of the world's airliners, for it is from them that most of the major savings in fuel end reductions in noise must come. Secondly, that while all the engine builders are interested in, end in many cases already involved in, the concept of international collaboration, they are not afraid to work alone on a competitive basis in the world market place. Thirdly, that, whether collaboratively or individually, the U.K. aero-engine industry, through Rolls-Royce, has a substantial contribution to make to the future development of the world civil and military aviation. But that contribution will not come cheaply. Aero-engine development is not just an expensive business, but a continuing one. Substantial additional investment is likely to be required in the years immediately ahead, not only for the additional derivatives of the RB-211 such as the Dash 535, but also for new generations of civil engines such as the 432 Series. Only through such investment can the U.K. expect to hold its own in the increasingly competitive era that lies ahead in the world aero-engine business.

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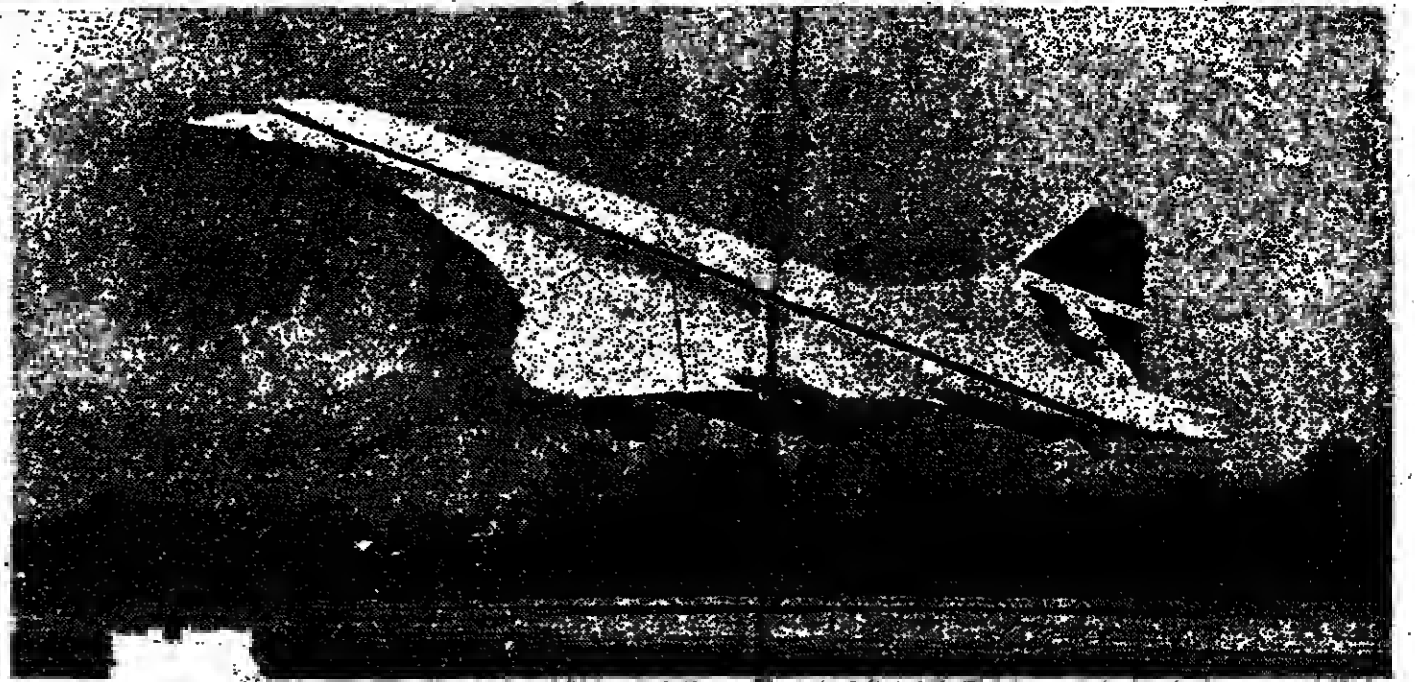
Commercial Aircraft	Military Aircraft	Guided Weapons	Space
1 CONCORDE*	6 TORNAO*	18 SEA DART	28 MARQTES*
2 SACONE-ELEVEN	10 HARRIER	19 BRAAM	27 OTS*
3 TRIDENT	11 HAWK	20 SKYFLASH	26 OSOS*
4 HS 748	12 AEW NIMROD	21 SEAWOLF	25 ISEE B*
5 A-300B*	13 NIMROD	22 RAPIER	30 SKYLARK
6 HS125	14 BUCCANEER	23 SWINGFIRE	
7 JETSTREAM	15 JAGUAR*	24 SEA SKUA	
8 BULLFINCH	16 STRIKEMASTER	25 MARTEL*	
	17 BULLDOG		

*International Collaborative Programmes



AEROSPACE VI

Concorde fights for its rights



The Anglo-French Concorde supersonic airliner has been in service with British Airways and Air France since late January, last year, on the routes to Bahrain and Rio de Janeiro, and additionally since last May on the routes between London and Paris and Washington. It has achieved a high level of reliability, and passenger acceptance has also been good, with load factors on the transatlantic route running at high levels.

SOME TIME this summer, the Anglo-French Concorde, the world's first supersonic airliner to enter regularly-scheduled passenger service, may be able to land at Kennedy Airport, New York. The long legal battle over the rights of British Airways and Air France to operate the vital transatlantic route between London and Paris and New York is not yet finally won, but some major hurdles have been overcome—

one of the most significant being the decision by Mr. Justice Pollock of the New York District Court early this month that the ban imposed on Concorde by the Port of New York Authority was illegal. There is every hope that the end of these legal obstructions is now in sight, and that within the next few weeks the first proving flights into Kennedy will be made, followed soon after by the first regular passenger operations.

Fears

New York operations will thus join flights to Washington in the two airlines' timetables, and it is certain that, as on the Washington route, the New York flights will revolutionise the Atlantic air travel market, despite the 20 per cent. surcharge on the normal first-class fare that the two airlines will be obliged to charge under the rules of the International Air Transport Association. Already some of the major airlines flying subsonic jets on the North Atlantic have indicated their concern at the prospect of Concorde taking away much of their first-class traffic, and they have sought to prevent the supersonic jet from operating at Kennedy.

At the same time, the objecting airlines have the answer to their fears in their own hands. If they cannot beat the competition, they should try to join them from joining with BA and Air France in operating joint supersonic services—the two European airlines would probably welcome some kind of link-up if it made flights into Kennedy easier. Alternatively, they could join together and lease a Concorde of their own, and put it into operation on the transatlantic route, and fight BA and Air France with their own weapons.

from flying into Kennedy. Many top executives of the major aerospace manufacturers have publicly stated that if similar objections had been lodged so forcefully in the past against innovative U.S. aeroplanes—such as the Boeing 747 Jumbo jet, for example—the entire world aviation community would have suffered as a result, while the U.S. itself would not have enjoyed such substantial sales of its jets as it has. Accordingly, they have urged at least a fair trial of Concorde at Kennedy, in the interests not only of Concorde itself but also of all future sales of U.S. civil aeroplanes, subsonic as well as supersonic. They clearly feel that any continuing ban on Concorde in the U.S. will result in the closure of U.K. and European markets to U.S. aeroplanes in the years ahead.

Extension

Beyond this, BA is planning to start Concorde operations to Singapore, and on to Melbourne in Australia around the latter part of 1977 and early 1978. At this stage, plans for an extension of those operations to Hong Kong and Tokyo are being considered, but nothing has yet been settled. The possibility of inward flights also into the Pacific to other destinations such as the Philippines and Indonesia cannot be overlooked, but here again, much depends on the progress made with the flights to Singapore and Australia.

remarkably good, with 81 per cent. of all flights departing within 15 minutes of the advertised time, and never 60 per cent. departing within 3 minutes of the scheduled time.

Spares

This kind of satisfactory operational result is also vitally important for the manufacturers, British Aircraft Corporation of the U.K. and Aerospatiale of France, who have now begun to reach the end of the production line on the aircraft authorised by the two Governments and who would rather than raise the question of whether they can expect the certain, but it could be, in one of these aircraft before the end of the service before the end of 1980s.

between the airline and the unsold aircraft on the line are, therefore, that some kind of financing arrangement will with Air France, little is heard of the start of passenger services with the Soviet rival BA and Air France, so as to put their Concorde operations on a comparable footing with that of other airlines.

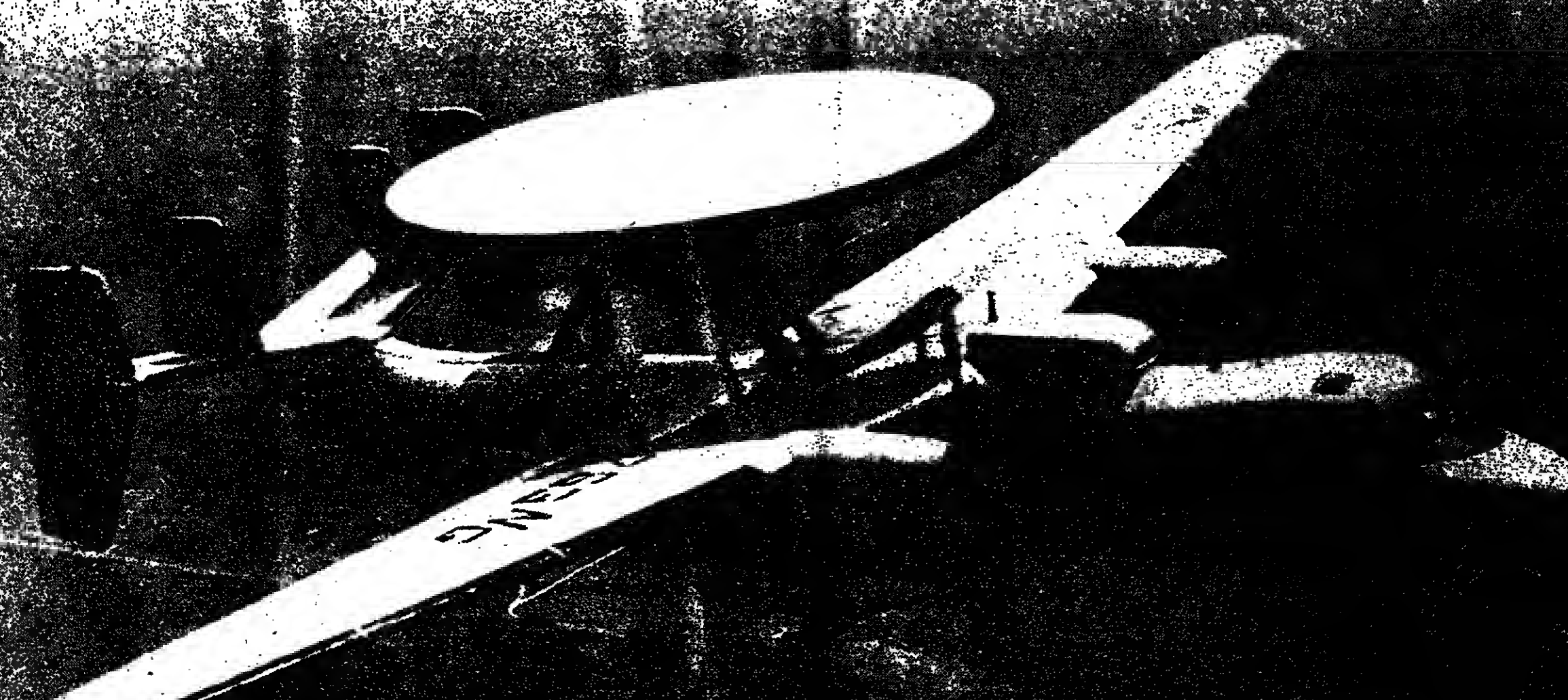
Spares

Whatever happens with back with the crash of one of the Concorde over the next few months, however—and this will indeed be a critical summer for the Anglo-French supersonic jet—one thing is clear. The TU-144 has performed regular cargo and mail flights between Moscow and Alma Ata, and Concorde may not be built and other aircraft have made progress in large numbers, ring flights across the Soviet Union between Moscow and that it has ushered in a new era in the history of flight. It has also been used, occasionally to take top Soviet dignitaries on important overseas missions. The start of regular passenger flights inside the Soviet Union has yet to be announced, however, and the amount of information relating to the flight test programme that has been given to the West is sparse. The only assumption must be, therefore, that the technical difficulties have been more serious than the Soviet authorities have been willing to admit. Thus, the future of the Concorde will be one of the most significant topics at the forthcoming Paris International Air Show, when it is expected that information as to its operational plans will emerge.

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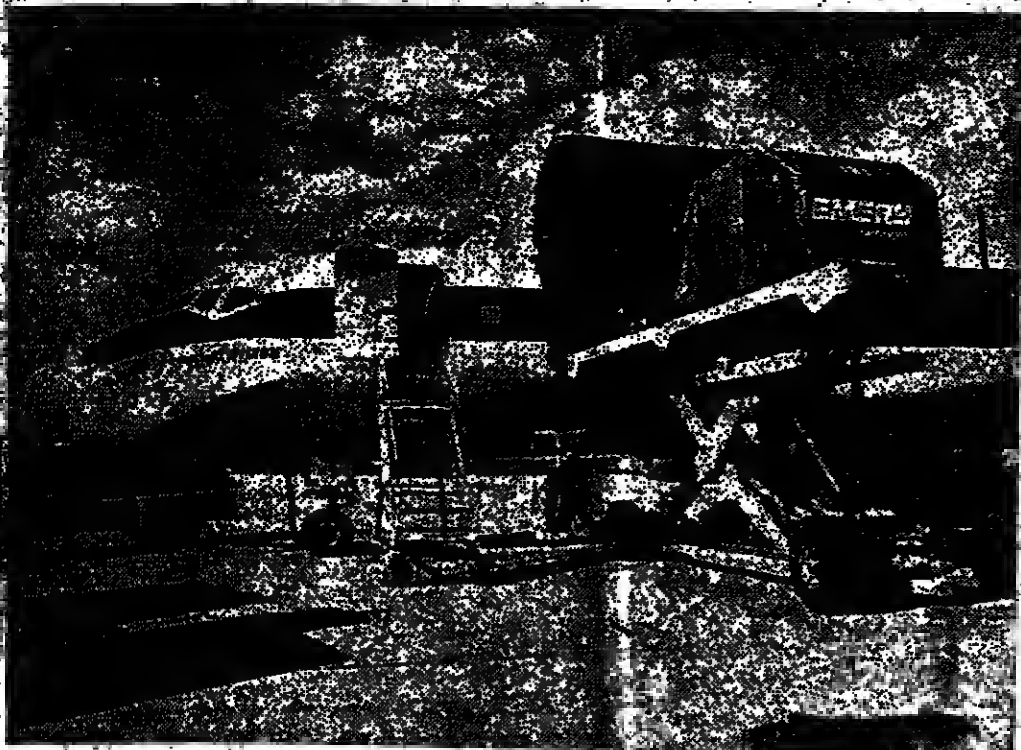
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Handwritten signature or stamp at the bottom of the page.

July 1975

AEROSPACE VII

Airline industry at a watershed



Emery Air Freight now has a fleet of more than 15 aircraft, ranging from DC-8 jets, such as this chartered aircraft seen above, down to small Beech 18s. Between them, this "Emery Air Force" carries over 1m lbs. weight of cargo world-wide nightly. Mr. John C. Emery, Jr., president, believes that one major stimulant to the growth of cargo business would be a new, more cost-effective cargo aircraft for the mid-1980s.

Freight traffic on the increase

THROUGHOUT THE world, the volume of air freight traffic is now increasing, as economies move out of recession and back towards an era of growth. The air cargo industry has expanded much more markedly in some areas of the world, such as the Middle East, than in others, but overall the air cargo industry is now developing rapidly. This is supported by forecasts that some of the world's major aircraft manufacturers, who have undertaken their own studies of the likely developments for the future. Boeing, the world's biggest builder of transporters for both passenger and cargo work, suggests its latest estimates that at most optimistic level of an 1 per cent. per annum growth in world revenue-ton miles of freight carried, with a "low forecast" of at least 8.6 per cent., the current world freight business will double in six to ten years and triple by '85.

Concept

In other words, the shipper pays a flat rate per kilo regardless of weight or commodity of individual shipments. In airline cargo parlance this is known as a freight-all-kinds—or FAK—rate. This concept has been advocated for years in the air cargo industry to provide the principal incentive required by shippers and carriers to attract more freight away from surface carriage and into the air. But at successive IATA cargo conferences, where such matters appear on the agenda, disagreement has prevailed. British Airways was able to act unilaterally in introducing its contract rates because an "open rate" situation has existed on the North Atlantic route since the last IATA cargo conference two years ago, and all that was needed to vary the traditional rate structure based on IATA concepts was the approval of the British Government through the Civil Aviation Authority. The CAA issued a directive to the airline to put the new rates into operation, rather than follow its normal routine in such matters and issue its formal approval. This so incensed the American carriers that each filed objections to the rates—concepts they introduced by British Airways

duced—with the U.S. Civil Aeronautics Board (the CAA), which not only refused to authorise their application for shipments entering the country, but ordered the British carrier to "cease and desist" in their use, claiming that they violated U.S. law, were discriminatory against the American carriers as well as small shippers, and were non-compensatory. More recently, in a New York District Court, the CAB applied for an injunction against British Airways, restraining the airline from continuing to apply the rates. Happily for British exporters, the judge refused the CAB's application, but the Board has indicated that it does not intend to retreat, and is planning to take its case to a higher court. So far it has not done so, but the indications are that it is holding its hand until the outcome of negotiations currently taking place between governments of the two countries on a replacement for the current Bermuda Agreement which expires on June 22.

Meanwhile, to the satisfaction of British Airways, practically every major air freight forwarder in the U.K.—and, ironically, several American forwarders operating in the country—are among them—as well as several large shippers, have signed agreements with the airline under its contract rate scheme. Also, increasing numbers of shippers and air forwarders in some European countries are trucking their consignments to the U.K. because, even after allowing for the trucking costs, they find the contract rates lower than the normal rates prevailing in their own countries and, in addition, they gain the advantage of favourable currency exchange rates. There has so far been an ominous silence on contract rates from the principal European carriers operating on the North Atlantic, although there are muted indications that both the Dutch national carrier, KLM, and Air France, as well as Germany's Lufthansa, are on the point of seeking the approval of their respective governments to latch on to the concept and introduce their own variants of the British Airways' scheme. The caution which they appear to be exercising probably hinges on the outcome of the IATA Cargo Conference which has been in session for the past month in Vancouver and is on the point of being concluded. They may also be awaiting to see which way the U.S. Civil Aeronautics Board is likely to move on contract rate variants which have been filed with it—after all their earlier protestations about the "BA" scheme—by PanAm and TWA!

Emerging from all the acrimony arising from the bold and imaginative step taken by British Airways in responding to the almost universal call from its competitors, from the forwarders and from shippers that has been heard over the years is clear confirmation that until and unless the IATA airlines can arrive at some agreement any significant growth in cargo traffic may well be hindered. Equally clear is that many airlines regard with contempt the existing IATA cargo rate structure and the inhibitions it imposes on innovative measures aimed at allowing the smooth and rapid development of air freight.

Peter Hering

THE WORLD air/industry is now recovering from the hiatus in its expansion created by the oil crisis of late 1973, and the subsequent economic recession, and there are hopes that from now on the industry will revert to a steady rate of expansion of passenger and cargo traffic. The International Air Transport Association (IATA) has forecast that over the next decade, the traffic carried by its members will grow on average at about 7 to 8 per cent. a year. This means that the current year's traffic volume of about 70bn. tonne-kilometres performed will reach between 130 and 140bn. tonne-kilometres by 1984, or about double the present volume. While this rate of growth is considerably less than the 11 per cent. average a year experienced during the past decade, it is none the less substantial—many industries experience considerably slower growth rates—and will be enough to give the industry some considerable problems both in the air and on the ground in coping with the flood of passengers and cargo—and also in the accounting offices.

Improved

Preliminary indications are that while this situation has probably improved a little in 1976, and is continuing to improve into 1977, costs of all kinds continue to rise. The measure of the airlines' problem is that over the past five years, the 100-plus members of the International Air Transport Association (IATA) have experienced a cumulative short-fall in their earnings of some \$7.5bn. against what is required to produce an adequate rate of return on their investments to ensure survival. A really dramatic improvement in earnings will thus be necessary to offset this severe shortfall, and at present there is little sign that they are on the way.

Mr. R. R. Cope, the assistant director-general of IATA for traffic and industry finance, said recently that the expected traffic growth coupled with increasingly stringent noise regulations and sharply rising fuel costs (to say nothing of possible fuel supply curbs), will oblige the world's airlines extensively to re-equip in the years ahead. The estimate is that between now and 1986, the world's airlines will need additional capital amounting to some \$60bn. to buy the aircraft needed both to replace ageing existing equipment and meet anticipated traffic growth of which some \$55bn. will be spent on aircraft and the rest on the necessary improvements to ground facilities, such as new hangars, simulators and other items.

The prospects for raising this money, however, appear bleak. The earnings being generated with current fares and cost levels are insufficient to enable the airlines to meet much of the capital requirement out of their own resources. It seems likely, therefore, that the bulk of the money needed will have to come from external financing. This in turn creates another problem, because many of the main external capital sources are disenchanted with the airlines and are reluctant to lend money while earnings and profits are at their current low levels. The IATA view is that at most the world's airlines may be able to meet about three-quarters of their capital needs from external sources—both commercial (the banks, insurance companies and other lenders) and political (government).

Realistic

If this future is bleak, it is nonetheless realistic—it is the kind of outlook that many senior airline executives have to consider in their planning for the decade ahead. On the other hand, there are alternative views. One is that the underlying strength of demand for air transport could exceed even the most optimistic current forecasts of the airline industry. For the people of most countries, air transport is no longer a luxury but a necessity—a feature of their daily lives and of their international trade and communications—while some countries in the Third World, deprived of normal surface means of communication, have come to depend upon it as the only link they have with the outside world, and even in some cases for their survival. Thus, the problems of the

airlines become the problems of their governments, who despite differences in attitudes are nonetheless becoming increasingly reconciled to the fact that international air transport is a vital political, economic and even sociological tool, and therefore are becoming more aware of its problems and the need to solve them. In the light of this recognition, it is doubtful whether governments will ever permit their airlines to go to the wall, no matter how acute their financial problems may be. At the same time, the airlines themselves can take some considerable measures to put their own economic houses in order. There is much wasteful duplication in the present air transport system, with an excess of competitive services on many routes, especially in the highly developed aviation regions of the world. A pruning of this situation would undoubtedly result in a substantial saving in resources. This could be helped considerably by a review of current regulatory practices in many countries, especially the U.S., where competition has been allowed to reach unnecessarily large proportions, resulting in a waste of resources of all kinds with only a limited profit for the successful carrier. A reform of regulatory procedures, therefore, not only in the U.S. but also in other parts of the world, might well help to revolutionise the overall air transport situation. What emerges from all this is that the world airline industry is facing virtually a watershed in its development. An era—that of post-war development—has ended, and a new one is about to start, in which new sociological, environmental, technical and political attitudes will all prevail to fundamentally change the pattern of the industry as it has become known in recent years.

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AEROSPACE IX

Optimism returns in the U.S.

THE AMERICAN aerospace industry, after the leanest and most difficult decade in its recent history, is more optimistic this year than anyone might reasonably have expected two or three years ago. The backlog for all orders alone at the end of last year stood at \$32.9bn. and that should be added another \$25bn. of military orders, to give the most conservative of estimates.

Although the industry is still much less profitable than other sectors of manufacturing industry its net profit after taxes a percentage of sales climbed last year to 3.5 per cent, compared with only 2 per cent the year before and a mere 1.8 per cent in 1971.

Meanwhile, the recession which has badly affected civil aviation, both because of the rise in fuel costs and the decline in the rate of increase of passenger traffic, now shows unmistakable signs of giving way to a new surge of business for airlines.

Passenger figures are rising and airlines are taking the most of their opportunities with tighter scheduling and fewer costly uncompetitive services on marginal routes. This improvement in the fortunes of the airlines is of great significance to the U.S. aerospace industry which is well aware that sooner or later the U.S. civil fleet will have to be equipped.

Dr. George James, chief economist of the Air Transport Association, estimated last year that in the next 12 years American airlines alone are going to have to spend about \$30bn. at current prices on re-equipping. He noted that summing an 18 year life for the average commercial jet, the airlines ought now to be replacing between 120 and 125 aircraft annually, but as yet there is no sign of this kind of growth.

However, Eastern Airlines is now joining with the European Airbus, United has ordered a significant number of Boeing 727s and more new orders are confidently expected. Last year there were some 326 jet transport aircraft ordered, according to the latest news which are soon to be ordered. One-hundred and thirty-three of these were for

foreign airlines which, of course, also have replacement needs which will, it seems safe to say, continue to be largely met in the United States.

Last year, the U.S. aerospace industry exported some \$7.9bn. worth of airliners, fighters, missiles and other equipment. Nearly \$6bn. of this was made up of civil aviation exports with most of the rest accounted for by military sales which, for the most part are made through the Department of Defence's foreign military sales organisation.

Overseas military sales rose sharply in the first half of the decade but have now somewhat levelled off albeit at a much higher level than before. Over all total industry sales to the Defence Department last year totalled \$13.4bn., which was only a small increase in value terms on the previous two years and in real terms represented very little progress.

President Carter's new arms sales policy, which was announced earlier this month, does not appear greatly to concern the industry at the moment, not least because it appears to have so many loopholes that it does not look as if very many of its traditional markets will be affected. However, this could change and the industry will be watching events very closely.

Anxious

The industry is, of course, also very anxious to see the Government press ahead with the building of the B-1 bomber which, if approved, would be built by Rockwell International in California. Its future remains uncertain and is intimately linked with the success or failure of the Strategic Arms Limitation Talks. If the aircraft does get the green light the latest estimates suggest that it will cost about \$100m. each, which would make it the most expensive aircraft ever built by a comfortable margin.

The last two years has seen a contraction in the U.S. industry as it has elsewhere and the companies, that have emerged are now much leaner and financially much more healthy than they were. Even Lockheed, which has had considerable amounts of very unfavour-

able publicity, now has only \$65m. of its \$250m. standby loan outstanding.

Along with the improvement in profitability has come an improvement in productivity and a sharp reduction in the number of people employed—from 1.5m. in 1968 to 899,000 at the end of last year. But despite the enormous economy of scale and other advantages enjoyed by the U.S. aerospace companies they, like their counterparts in Europe and Japan, are still greatly interested in co-operation with other companies in other countries. The Lockheed alliance with Rolls-Royce has proved very successful technically with the new RB-211 engine enjoying a very good safety and maintenance record.

General Electric and SNECMA, the French company, are also working together on a new engine and the Pratt and Whitney division of United Technologies Corporation has also been toying with a variety of co-operative possibilities. The engine manufacturers in particular are under great pressure from the airlines to produce a new range of engines which are both quieter and more economical on fuel. Latest estimates suggest that the standard jet fuel may cost as much as 99 cents a gallon in ten years time compared to the 33 cents a gallon it costs now.

In terms of triumphs and disasters this last year has seen two particular events. The first was the decision of four NATO countries to buy the F-16 which was a major shot in the arm for the U.S. industry and is one of the largest military contracts ever won. The disaster was the tragic collision on the runway of two 747s in Tenerife which had nothing to do with the manufacturers of the aircraft but nevertheless caused great sadness in the industry. One practical result of it may be to increase public pressure in the years ahead for so-called crash-proof fuel tanks. Such tanks are feasible but they are very heavy and would reduce fuel consumption fairly significantly. Nevertheless it would not be surprising if the new administration takes a very close look at the potential of such tanks.

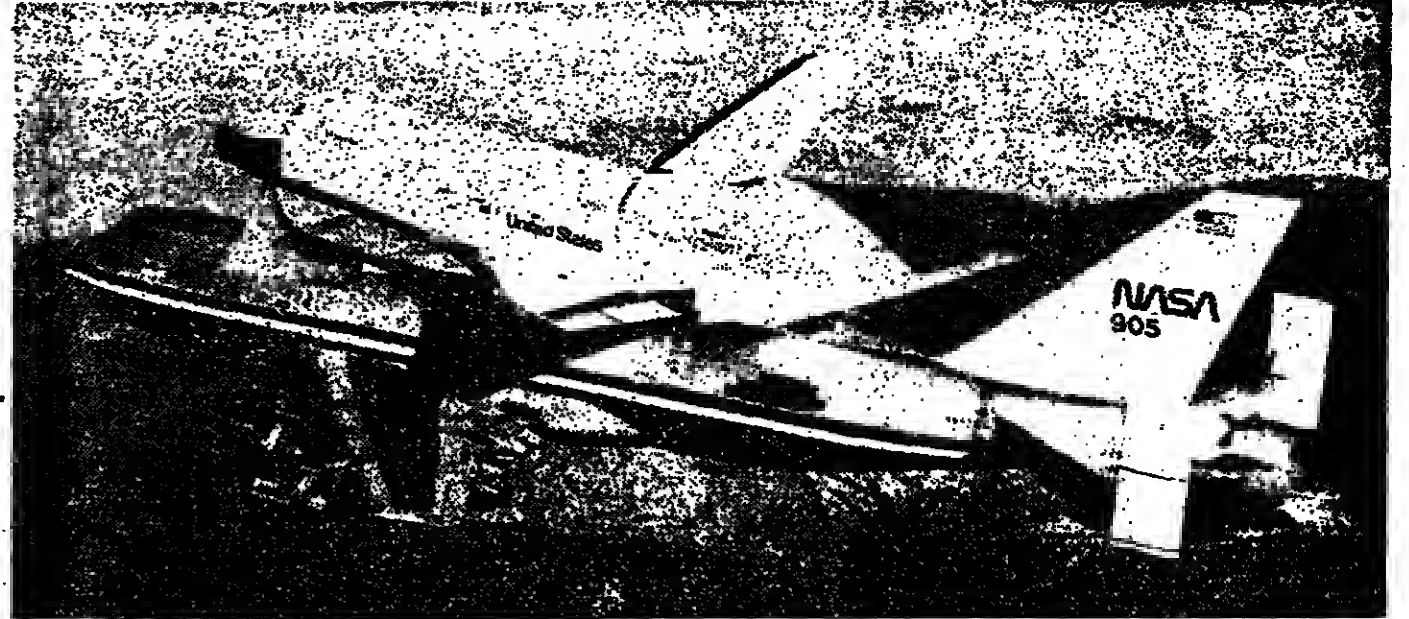
But it is to the civil airlines that the industry will be looking in the next few years. Boeing is already at work on its new 7X7 aircraft which is expected to have the range to cross the United States and much of Europe but probably will not have transatlantic capabilities, and it also has the smaller 7N7 design. There is no doubt that airlines need new aircraft, but there are grave doubts as to whether they can afford to pay for them. Even if the improvement continues it is difficult to see how airlines can generate enough of the money needed to fund major new purchases and this is a problem with which the Administration has yet really to concern itself. There is no shortage of people in the U.S. both inside and outside the industry, who draw the parallel with the railroad industry which was unable to re-equip when it should have done and has since paid a heavy financial penalty.

Concern

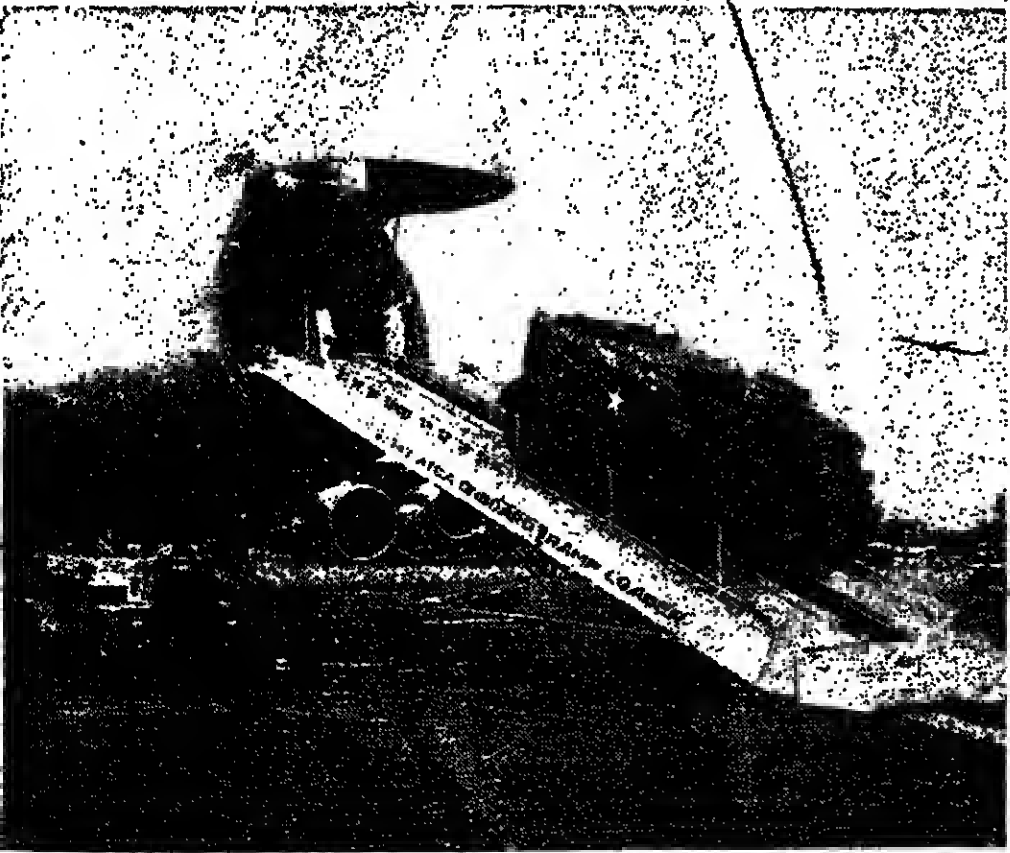
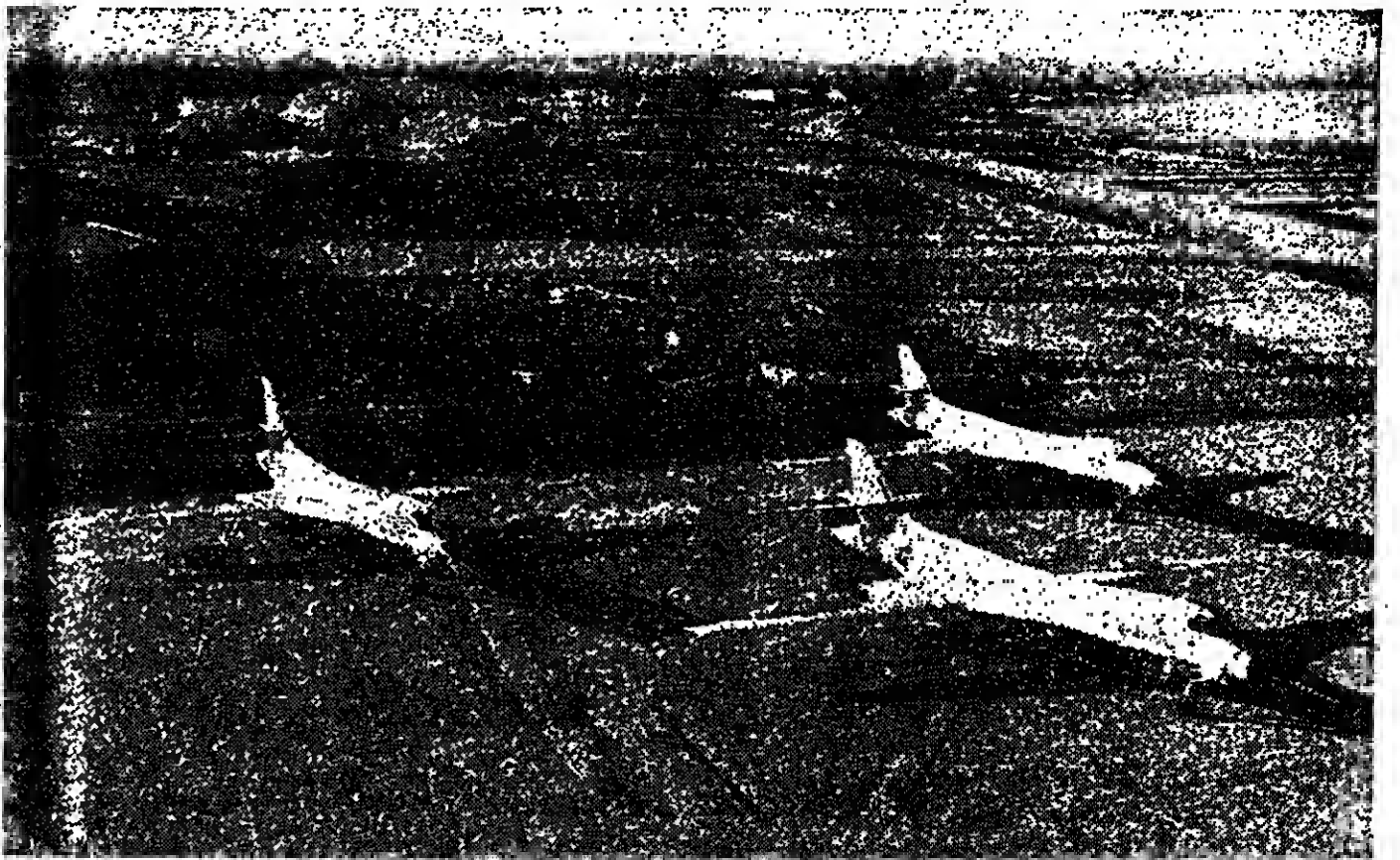
In this context many of the airlines are worried that the Carter Administration's moves to deregulate the airlines may exacerbate their problems. It is too early, however, to say what effect this policy, which has yet fully to be worked out, may have. Whatever happens the military part of the market will continue to be very important and, it is here, despite stringent Pentagon bidding procedures, that there is a good deal of money to be made by efficient companies on long, well-organised production runs. Whatever the outcome of the SALT talks there is not going to be a fall in defence spending in the next few years and that can only be a good omen for the aerospace industry.

In any event as one industry expert put it: "business is good and better than we dared to hope." And the signs are that for the next two years at least the U.S. aerospace industry will find itself with much less to worry about than a few years ago.

David Bell



Above: The Space Shuttle Orbiter 101 riding on NASA's 747 carrier aircraft in the first series of capture approach and landing tests at NASA's Dryden Flight Research Centre, California. Below: The U.S. Air Force B-1 long-range bomber is now under development, pending a final decision by President Carter on whether or not to order it into full-scale production as the main U.S. strategic weapons delivery system of the future.



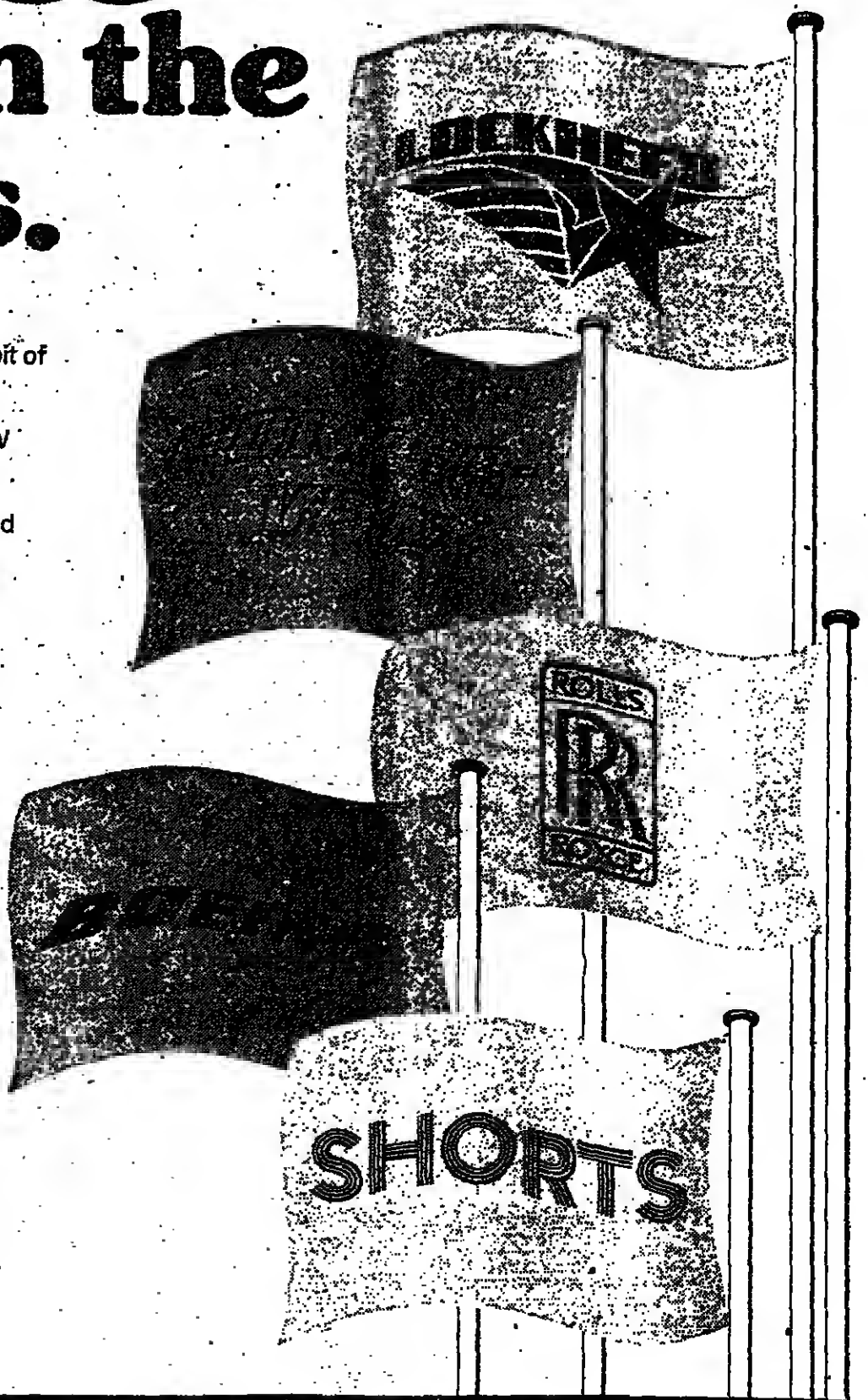
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Italy

CONTINUED FROM PREVIOUS PAGE

on the sale of Aeritalia's greater autonomy and to join successful G.222 transporter to programmes not just in air because of the aircraft's frames, but also directly in engine engines. It showed, engine development at the said, once again the need for initial research and development Italian industry to secure ment stage.

But the industry itself acknowledges that a major requirement is some long-overdue rationalisation, at least initially in the public sector, and there are some signs that the Government is already thinking along these lines. But industrial re-organisation and rationalisation is a complex and politically-sensitive process in Italy, and a state aerospace holding company with a co-ordinated programme in both the military and civilian spheres may take some time yet to emerge.

The private sector, meanwhile, presses on with the ingenuity and flexibility (and generally, the profitability) for which the Italian secondary industrial sector is rightly famous. It can certainly use urgently some state financing assistance for research, but then, too, some companies selling against tough competition out in the international market place would argue that an even greater priority just now is a comprehensive programme of export credits. Given its limitations, the relatively infant Italian aerospace industry is not performing too badly!

Dominic J. Coyle

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AEROSPACE X

French uncertainty

THE FRENCH AEROSPACE industry plays host at Le Bourget with its morale boosted by two recent pieces of good news, but nonetheless suffering from a fundamental feeling of uncertainty and lack of direction. This uncertainty is particularly pervasive in the civil field where the string of commercial failures is now a long one and where a new collaborative venture with other European builders is needed urgently. Neither is it absent from the military field, though the flow of state orders assures the main military constructor, Dassault, with a steady supply of work. On top of the commercial problems of the industry has come a gusty little scandal involving allegations of large-scale fiscal fraud by the Dassault group of companies while the nationalised concern Aerospatiale has for a long time suffered from the absence in Paris of a consistent policy towards the industry and has seen a rapid turnover of top management.

The first piece of good news was hope at last that Coudrocq, of which Aerospatiale is the co-constructor, will be able to operate to New York. While the airlines hope this will improve their ability to operate Concorde at less of a loss, the manufacturers clearly hope that competitors to British Airways and Air France will be obliged to come into the superprime market to prevent the loss of their first-class passengers. With the last of the presently authorised Concorde being

built by Aerospatiale at the moment, the need for new orders is clear.

The second cheerful item was that the wide-bodied Airbus, which is based on a Franco-German collaboration, is shortly to make its American debut when Eastern Airlines start a six month lease of four machines (a more evocative name than Airbus has to be improvised by Eastern which operates what it calls "whisper jets") to operate on its New York to Florida routes. If the aircraft stand up to what Mr. Frank Bormao, the Eastern president, calls the "cauldron" of service in the U.S., being used for 10-11 hours a day, then up to 50 could be ordered.

Urgently

Such an order is urgently needed. Although nobody disputes the technical excellence of the Airbus it has been commercially unsuccessful, airlines repeatedly preferring the familiar in the shape of the Boeing 727 or 737 or DC-10 to introducing a completely new jet of non-American parentage.

At present, the Airbus, carrying around 260 people on short-medium distance flights, has to its credit 37 firm sales, 23 of which are for the aircraft to be leased. This is clearly nowhere near bringing a return on investments of around £600m, nor is the arithmetic attractive enough to make the French and German governments, who are guaranteeing the loans to the consortium, in which their interests each have 44.6 per cent, readily contemplate financing a long distance version of the hoped-for B10 middle distance version for just over 200 passengers.

The next few chapters in the Airbus saga seem certain to be political. The British Government pulled out of the scheme before the consortium was formally constituted; but the U.K. company Hawker Siddeley, now part of the nationalised British Aerospace group, remained in the venture privately and manufactures the wings of the Airbus.

The British Government is under pressure from its own industry to get back into the consortium and the French and German governments would probably like to have it back, although whether it would have to pay as entry fee a contribution towards development costs already disbursed would have to be argued about.

The attraction for the U.K. is not merely guaranteeing the continuance of work to Hawker Siddeley on versions like the B10, which will require a redesigned wing, but of pressing the case for offering the Airbus with Rolls-Royce RB-211 engines as an option.

The opposite point of view is that the Airbus, even with an Eastern order, is not on the point of becoming profitable. But the British government's own search for projects for the U.K. aerospace industry is also leading towards European operation, and these will be difficult to argue without the guarantee of the good intentions which rejoining the consortium would imply.

Aerospatiale is the main French partner in the Airbus project, but it is also developing a new joint venture option in the A200 project, which would be a twin-engine aircraft in a 120-seat version and a 160-seat version as compatible as possible with the Airbus, powered by the 10-tonne CFM-56 engine (Soecma and General Electric) ready for service around 1982.

The genesis of this project illustrates the problems the civil manufacturers have had in France. Two years ago the French government used the occasion of Le Bourget to call for a new European collaborative venture.

This call was never very specific, and when it met with no response France took an alternative road—a road which is permanently tempting to the French who, despite their strong cultural patriotism are very hewitched by American technology—towards collaboration with a U.S. company.

Talks with McDonnell Douglas started some nine months ago around an updated version of the Dassault Mercure, a twin engine carrier which proved a massive flop, selling no more than 10 machines, all of them to the domestic carrier Air Inter. It was said at the start that it was a still-born project. The American company envisaged a role for the Mercure 200 which would require the much more extensive re-development than originally envisaged. In addition it maintained its own options of stretching and re-engineing its DC-9 and renewing its own range—something which worried the French because of its implications for the Airbus.

The two sides failed to reach agreement on financial participation while the presentation of the project to the airlines was read by the French as indicating a specific need, at least on the part of the European operators, for distinct versions seating around 120 and 160 passengers respectively. Although the venture has not been pronounced dead officially, the anxiety of Aerospatiale to promote its A200 concept, clearly incompatible with a Mercure derivative—indicates little hope in its being kept alive.

An issue which kept surfacing in the course of the McDonnell Douglas collaboration was how Air France, the national carrier, was to replace its large, aged and fuel-hungry fleet of Caravelles. It was at one point thought that the new Mercure might eventually do the trick, and Douglas was quick to point out that an interim purchase of Douglas DC-9s would smooth the path of the Mercure collaboration.

This was not to the liking of close liaison with the French Defence Ministry, overseas by the government of the French Government and its permissive attitude to arms sales (now tightness: up and based on a reasonable technical skill. A National Assembly commission recently produced a report severely criticising the Government's practice of using Aerospatiale as essentially a subcontractor for Dassault, and the proportion of state financing of aerospace development generally.

Dassault's news-worthiness over the past year has been more political than technical. The re-negotiation of the Mercure, a Gaullist MP, a substantial supporter of the Gaullist Party financially, a long-time hater of M. Jacques Chirac, and the head of a business empire embracing aviation, electronics, real estate and publishing, is something of a legendary figure.

His own wide-spread interests in his company's position as a monopoly supplier to the French Air Force of tactical aircraft make him a political force. His pre-war aircraft venture was nationalised by the Common Front Government of the 1930s (he went on to help run the nationalised company and to be a supplier to it) and his present company is on the list of concerns for nationalisation if the Left wins the election next year. He has already pioneered to be nationalised and he is retained as consultant—an irreverent attitude towards the affair which the Left finds infuriating.

At Dassault, the picture is more optimistic. While the Mercure was a signal failure it represented an aberration from Dassault's long-term policy of developing military aircraft for state buyers, a policy founded on the Mirage series of aircraft. The exception has been the business jet Falcon series in three versions. The company has just sold 41 Falcon 20S to the U.S. Coastguard Service in collaboration with its American partner PanAm which will have around half the \$205m, work from the order.

The French Air Force has been eye on the Mirage 2000S for the aerial defence role and the same again in a reconnaissance and attack role. Present budgeting is for 130 new aircraft to replace Mirage IIIS which have, in some cases, 15 years service.

Dassault success is founded on supplying the French Air Force and overseas military needs, helped at home by its

Allegations

A long drawn-out affair succeeded to be in the making when the Dassault chief accountant absconded with Frs.6m, success or obvious failure. By that time too, the old option of American or European co-operation should have been resolved at least for one generation of aircraft.

If the Left wins, Dassault will presumably form part of an aerospace group with Aerospatiale, though the concern of the Left for national independence is likely to see the company, state or private-owned, maintaining its close liaison with the government as the main repository of strategic skills.

David Curry

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Dutch want greater European links

"THE PROSPECTS for the Dutch aircraft industry shall certainly in the longer term be mainly determined by the developments taking place in the European aircraft industry in the coming years. These essential words were contained in the Memorandum accompanying the Budget for 1977.

The view is shared by Holland's sole major aerospace company, Fokker-VFW, the Dutch arm of the German-Dutch aerospace group, VFW-Fokker, as well as by the important Netherlands Agency for Aerospace Programmes (NIVR). This is a "non-profit-making foundation in which government, industry, users and research establishments are represented jointly, sharing the responsibility for promoting and supervising Dutch aerospace projects or participation in foreign projects.

VFW-Fokker said in its annual report last week that the starting position of the European aerospace industry would be "considerably improved by a more vigorous expression of the political will towards European co-operation in this field and a common European policy."

Besides rising production costs in the European industry, compared with the competitive industries in the U.S., the additional disadvantages for the Dutch aerospace and general industries include the strong position of the Guilder against the dollar and the pound. And, until recently, the Dutch Government's reluctance to respond to this situation by offering substantially more aid for Dutch export efforts.

Despite these handicaps, most of which also affect the competitive position of German industry, Fokker-VFW managed to just about maintain its position in the past year. Although it remains very difficult to split the intertwined manufacturing activities of this trans-national group, the two "Dutch" products, the F-27 Friendship and the F-28 Fellowship airliners give rise to cautious optimism for the future. The international airlines' caution in ordering new aircraft for their fleets has inevitably affected sales of two aircraft, however. In the

light of this situation, the German-Dutch group is aiming to raise the efficiency of its marketing organisation, Fokker-International at Schiphol, which is responsible for marketing the full range of the company's aircraft and the after-sales service.

As regards Government development aid for projects by Fokker, this is channelled through the NIVR and is reimbursable out of sales, if the project is successful. These funds, once allocated by the Government for development, are retained by the NIVR for further similar use, thus creating a "revolving fund." The industry also contributes to the fund the royalties gained from aircraft sold, even after the original development loans have been fully repaid.

In this manner, the F-27, the turbo-prop airliner which has been produced for more than 20 years, has already repaid its development costs to the foundation "more than twice." In the minds of the "founding fathers" of the NIVR, it was thought that this revolving fund would eventually be sufficient to carry out the full burden of future aircraft development. But the staggering increase in the cost of the technology needed to develop increasingly sophisticated aircraft, and to a lesser extent in aviation, has put an end to that dream.

Fokker is currently engaged on a new development, a larger successor of the F-28 which is designated the F-28 Super. It will have a capacity of 100 to 120 seats, using a new wing concept and more advanced engines to meet stiffer environmental regulations in the future. The NIVR said in its recent annual report that work on this project has been accelerated, because the need for such an aircraft was expected earlier than expected. There has been substantial foreign interest in the aircraft, and it was claimed, the so-called "Dutch" programme is expected to be finished by the end of this year.

The NIVR also wrote in its annual report that the accelerated A-300 Airbus, in which

tion decided on in 1976 was also due to the fact that "there may be an early decision on a possible successor aircraft from the British side." The Dutch Government development subsidy which was due to be received in 1978, will now be paid this year.

The German-Dutch VFW-Fokker group, which specialises in short- and medium-hand aircraft, has said that in the past year six F-28 jet airliners were sold, bringing the total number sold to 119. The NIVR noted that whereas the aircraft had experienced very heavy competition from the smaller U.S. aircraft, the British aircraft industry was also regarded a serious contender for sales in certain sectors, with currency considerations playing a main role in this development. All parties have stressed that they aim to make the F-28 Super into a truly European aircraft, with other manufacturers participating, as the costs would be far too high for Holland to bear alone.

As regards the other Dutch aircraft, the turbo-prop F-27 Friendship, which is regarded as the most successful aircraft of its kind, achieved 11 sales in the past year, bringing total sales, including the 205 aircraft produced under licence and sold in the U.S., to 665. As yet, no sales have been recorded for the maritime reconnaissance version of the F-27, the MPA, which was developed in 1973 especially for civil and police supervision of coastal waters. It is reckoned that, in view of the increasing trend towards 200 mile fishery zones, there is a big future market for the aircraft.

The production rate of the F-27, many of which have been sold to the developing countries, and the Middle East is two a month, a rate which will be maintained this year, on current plans. Hopes of winning a very substantial order from the U.S. from the Coastguard there, were dashed at the beginning of this year. Although Fokker submitted a proposal, the smaller and cheaper French Falcon 20, of which a major portion is manufactured in the U.S., was chosen instead.

Dutch hopes are also still pinned on increased sales of the A-300 Airbus, in which Fokker participates only as sub-contractor, unlike the German side of the company which has a major stake in the project. The lease of several aircraft to Eastern Airlines of the U.S. has been highly welcomed, and Fokker also notes that by focusing on Britain's 5.3 per cent participation in the programme. In its annual report VFW-Fokker said that after Western Airlines' disappearance, that a breakthrough in the U.S. market will only be possible if the joint effort of the European governments attain a better balance between the European and the U.S. aircraft industries' are success.

As far as military sales, concerned, preparations for production of the F-16, successor to the Lockheed fighter, were begun in the year. The Dutch share of final assembly of 174 air for the Dutch and Norwegian Air Forces, as well as pre-flight of about 546 sets fuselage and wing equipment. The group's Belgian affiliate SABCA (42.5 per cent) by VFW-Fokker, will manufacture the wings and carry final assembly of the air for the Belgian and Danish Forces.

As for the future, Fokker continues to advance discussions about the situation of the German and Dutch aerospace industry in the integration along the line of the VFW-Fokker merger, national borders. It said in its annual report that this would help to improve European position vis-à-vis European competitors, point out that industrial to-be in Europe is to-day still on very different legal visions, organisational and groupings.

Noting that a large of, political and industrial reasons have in the past prevented the establishment of a broader European basis of aerospace industry, it added that "Even to-day, it is possible for a company to be two countries to transport packages across the border."

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AEROSPACE XI

Germans stress the 'two-way street'

THE WEST German aerospace industry is a smaller and less dynamic entity than its counterparts in either Great Britain or France...

jects in which the West German industry is currently engaged certainly need a healthy measure of confidence...

again speculation that the man aerospace industry is engaged, through Deutsche Airbus, push the two largest companies...

West Germany is highly pleased with the Airbus as a working aircraft, and though senior Government officials responsible for the project's funding try not to be over-optimistic...

Strained Unlike either the British or French, the West Germans have no previous history of strained relations with Washington in the civil aviation sphere...

Geneva round of multilateral trade negotiations. Despite the British unless Whitehall is willing to undertake the capital expense...

relatively fewer immediate decisions for Bonn to make. West Germany's third major aircraft builder, Dornier, is engaged in co-production of the Alpha-Jet with Dassault-Breguet...

West Germany is hopeful that these projects, like the Airbus in the civil sector, can be made in the basis of future co-operation among European aircraft industries...

Projects

Both major civil airliner projects in which the West German industry is currently engaged...

Meanwhile, VFW-Fokker and MBB are already working on the European Airbus, the more important of the two civil aircraft projects in which the Ger-

will also have a radar air-to-air missile, for which the current choice is the Hawker Siddeley Skyflash, a development of the American Raytheon Sparrow missile...

SAAB-Scania is also studying anti-tank missiles and the Parliamentary Defence Committee recommended that the possibility of closer co-operation between SAAB and Bofors on missiles be examined...

William Dallforce Nordic Correspondent

Costs In industrial terms, the Germans are very keen to see the British Aerospace Corporation continue the role of the former Hawker-Siddeley company in building the wings of the plane...

Compared to the troubling questions hanging over the civil sector, the military side of the West German industry presents

Adrian Dicks

Swedish decisions needed

THE SWEDISH AEROSPACE industry is still being kept on tenterhooks. The new non-aligned Government has production series and SAAB-sponsored the decision on Scania has had difficulty in obtaining export orders...

A socio-economic analysis published last November, estimated that development costs for the 662 "Barrel" aircraft of the 1950s were Kr.324m. at 1976 prices, for the 550 Draken series the cost was Kr.2.5bn. and for the 350 Viggen ordered the cost is put at Kr.8.88bn. (€920m.)...

The five-year defence programme tabled by the Government earlier this year did not as the BSLA. It version and the 'Safari in its Sky-dash, a development of the American Raytheon Sparrow missile...

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A new Government commission was appointed in March to study the cost estimates and performance guarantees for aircraft and is due to report in October. Only after that will the coalition Government, which which opinions differ on the issue, make up its mind. The Commission has also been instructed to investigate alternative methods of meeting Swedish Air Force's requirements, including the ability of building a light aircraft with a certain strike capability instead of the BSLA...

The delay in settling the fate of the Swedish aircraft industry must be attributed largely to the 1974 Parliamentary Defence Committee, which reported in January, but in the event shirked the decision on the BSLA. The Committee stated that it would need more detailed information, a standpoint on the issue. The Social Democrats, now in opposition, were against development of the BSLA, which the Liberals were sufficiently uncertain to prevent a non-Socialist majority voting for it. Within the present Cabinet the Moderates (Conservative), and probably a majority of the divided Centre Party members, favour the BSLA while the Liberals would like to have the development cost funded out of the current defence spending...

Its weight is so low that its power unit will leave it with a small infra-red signature as well as a small radar profile. The final choice of an engine has not yet been made but the competition lies between General Electric and Rolls-Royce, who could supply the RB-199 engine used in the Tornados, but without the after-burner. SAAB-Scania believes that the BSLA would have greater export potential than the previous military aircraft it has developed.

Offers Having lost the "weapons deal of the century" to the General Dynamics F-16 and the Finnish trainer order to Hawker Siddeley's Hawk, SAAB-Scania is still trying hard to get its first export order for the Viggen. Offers have been made to Austria and Australia. The most immediately relevant is the Austrian order, for which SAAB-Scania is competing against the French Mirage F-1, the Northrop F-25 and the Israeli Kfir and on which it hopes a decision will be taken early next year. Austria is one country where Sweden's neutrality can give SAAB-Scania an advantage. It has already sold 40 SAAB-105 trainers to the Austrians, and believes it can offer a fully competitive industrial off-set deal for the 24 interceptors the Austrians are now seeking...

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Compared to the troubling questions hanging over the civil sector, the military side of the West German industry presents

Adrian Dicks

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AEROSPACE XII

Helicopters earn their keep

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ALTHOUGH SALES of helicopters throughout the world did not pick up so rapidly in 1976 as many manufacturers in the U.S. and West Europe had hoped — the general description of the market was that it was "flat" — there are nonetheless high hopes for 1977. The inflow of orders so far this year for many makers — again especially in the U.S. — has encouraged beliefs that the helicopter market has at last really recovered from the recession following the oil crisis of 1973, and that from now on the sales graph will be rising steadily.

It is estimated that there are now some 20,000 or so helicopters in the world fleet, of which about 14,000 or so are military and the rest civil. The production graph is rising slowly, sufficiently to add several hundred machines a year to the world inventory, but this rate could quicken in the period immediately ahead. This expansion is likely to be attributable mostly to the emerging needs of the Third World countries with the military needs of established Western Europe and U.S. users settling down to a slower expansion rate, although their civil needs may well expand more rapidly. Helicopters have now been around for a sufficient length of time for the replacement market for ageing machines to be assuming significant proportions in its own right, in addition to the requirements generated by growing demand.

Estimates for the next few years made by Sikorsky Aircraft, one of the world's biggest helicopter manufacturers, indicate that between 1976 and 1985, there will be total world-wide helicopter sales of about 19,000 units, of which over 60 per cent, or about 11,700 aircraft, will be delivered to the foreign market, and the rest used within the U.S. itself.

Outside the U.S., the preponderance of sales is likely to be for military types of helicopters, although within this

class there will be an emphasis upon transport and utility roles. Inside the U.S., while sales in military aircraft will continue to be high, there will be a swing towards a higher rate of growth in the civil market, partly as a result of the growth of new civilian applications for the helicopter, and partly as a result of the development of new models designed especially for civilian use at prices the market is prepared to pay.

Trends

Ten years ago, nearly 90 per cent of all the helicopters sold to civilian customers were models derived from original military specifications. At the present time, because of the emerging civilian interest, which is demanding models specifically designed to cater for those needs, this proportion has dropped to about 70 per cent, and Sikorsky believes that within the next decade it will go to below 50 per cent. Above all, Sikorsky says that it sees in the increased commercial helicopter development a clear indication that the helicopter industry has matured, and is profitable enough to justify today's outlays of funds especially for the development of new civil models.

As a result of these trends, the general view prevailing among the world's helicopter manufacturers is that the total market for the next decade should be adequate to provide a fairly substantial level of business for all participants, although there will undoubtedly be some severe competition in certain sectors of the market. This latter factor, coupled with steadily rising costs, is likely to lead to an increase in the amount of international collaboration.

This is especially the case in Western Europe, where the U.K. and France as far back as 1967 agreed on the tripartite helicopter package (Puma, Gazelle and Lynx). This was

followed by the formation of Heli-Europe Industries in 1973 by Westland of the U.K. and Aérospatiale of France to explore possible future collaboration, while in 1975 Westland, Aérospatiale, Agusta of Italy and Messerschmitt-Bölkow-Blohm of West Germany agreed to collaborate if feasible designs could be agreed. Last year, member-Governments of the EEC countries set up what was called the European Programme Group No. 2 to define common European operational requirements for military helicopters, and earlier this year a Helicopter Technical Working Group from Britain, France, Italy and West Germany was set up to produce detailed requirements of a new generation of military helicopters which could be divided between the manufacturers on an equitable basis.

Responding to this, the four companies (Westland, Aérospatiale, Agusta and MBB) have submitted a comprehensive study to the Working Group, proposing a detailed future programme of co-ordinated helicopter research, to be paid for from the central EEC research budget, embracing many aspects of helicopter technology, such as noise reduction, improved blade performance, operation under IFR (instrument flight rules) and so on.

So far, the work of the four companies and the Working Group itself has not resulted in a specific four-nation future civil or military helicopter programme, nor is there yet any guarantee that one will emerge for some time to come, for each of the four companies and countries has current work programmes of its own that will certainly keep it busy for the immediate future. There are also some differences of view between them as to how such major multi-national programmes ought to be run, and it is possible that these may prove to be difficult to overcome.

The U.S. manufacturers, however, are not ignorant of the fact that there is likely to be a big demand for civil and military helicopters in Western Europe in the decades ahead, and they are not likely to be slow in exploiting any differences of view that they detect, in favour of promoting bigger sales of their own programmes. It is likely to be in the long-term interest of the European helicopter manufacturers to reconcile their differences and establish design concepts and work programmes reasonably quickly, if they are not to find themselves being left behind in the helicopter stakes of the 1990s and beyond.

Apart from this, the current work programmes for the major European helicopter manufacturers remain strong. In the U.K., Westland is thus concentrating its activities on military types — the Lynx multi-role helicopter and on the Sea King transport and anti-submarine helicopter, with its variants such as the Commando — while also maintaining its share of the work on the other major current programmes, the Puma transport aircraft and the Gazelle light helicopter, both parts of the original Anglo-French helicopter development and production package.

Cuts

Westland has suffered, however, from the effects of the U.K. Government's progressive cuts in defence spending, and there have been slow-downs in the procurement rate of both Lynx and Gazelle helicopters. The company says it is keeping a close watch on the possibilities of the civil market, but is unlikely to spread its resources into this area in the foreseeable future while adequate military business is attainable, for it believes that, notwithstanding the U.K. defence cuts, military business is better, with larger orders and bigger customer investments in spares and product



Sikorsky Aircraft's UH-60A UTTAS (utility tactical transport aircraft system) helicopter prototype demonstrates its load-carrying ability by lifting a U.S. Army "Gamma Goat" vehicle weighing more than 7,000 lbs.

support. On the civil side, the cost of Certification for Airworthiness has to be written off against perhaps small initial orders, and the supplier is expected to make a large investment in product support services and spares to meet an unforeseen but urgent customer demand. In its search for new military business, Westland is particularly looking at export markets, with the emphasis at present on selling the Lynx to the Middle East, where the company has already done well with both its Sea King search and rescue and anti-submarine warfare helicopter, and with its Commando troop transport variant.

In France, the helicopter division of Aérospatiale has done well in the first three months of the current year, booking new orders for over 140 of its small and medium helicopters — including the Gazelle and the new Ecureuil, while it has also achieved considerable continued commercial success with the civil version of the Puma transport aircraft, especially with North American customers who need it for oil exploration and support duties. Aérospatiale is also now marketing its Dauphin helicopter in

two versions, the SA-380C, a single engine aircraft, and the SA-365 Dauphin 2, a light twin engine aircraft, both primarily aimed at the corporate business aircraft market, especially in the U.S. Aérospatiale is also now marketing in the U.S. the AS-350C ASStar, a wide-bodied, high-performance helicopter, designed to meet the demands of the growing civil market.

Attention

The other major European helicopter manufacturers include Messerschmitt-Bölkow-Blohm, which is doing well with its BO-105 light utility helicopter, and its derivative, the BO-106, with a planned seven-seat development, the BO-107. In Italy, Agusta has devoted much of its attention in recent years to the development of the A-109 high-speed, twin-engine helicopter, which in its basic version accommodates pilot and seven passengers, but which is also available in a wide variety of roles, for freight carrying, search and rescue, ambulance and military duties. In the U.S., there have been some significant major developments in recent months. Sikorsky Aircraft won the U.S. Army's long Utility Tactical Transport Aircraft System competition (UTTAS) with its UH-60A, designed as the Army's first squad-carrying utility helicopter, for which eventual orders could amount to \$3bn. Sikorsky also has been making rapid progress with its new S-76, with orders from 25 customers for more than 85 aircraft. The twin-turbine engine S-76, designed from the start for civil duties, can carry up to 12 passengers plus a crew of two, over distances of 400 nautical miles at a speed of up to 176 mph. With additional fuel tanks, it can carry eight passengers for 600 nautical miles. It has been designed from the outset to meet the needs of the offshore industry, especially for rig support duties, and for general business aviation requirements into the 1990s and beyond. Sikorsky is also now flying a new helicopter research aircraft for the National Aeronautics and Space Administration, designed to develop new techniques in rotor systems. The company's big S-61N, used extensively in the offshore oil industry, continues its production at a rate of one aircraft a month.

Also in the U.S., Hughes Helicopters won the U.S. Army's other major competition, for an Advanced Attack Helicopter (AAH), with an initial order from the Army for what will eventually be a fleet of 538 of these aircraft (the Hughes YAH-64) worth over \$4bn. Hughes is concentrating its efforts on this aircraft, and does not at this time envisage adapting it for civil uses, although the company says it could be adapted readily to a light or medium twin-engine commercial machine. Nor is there yet any specific Hughes intention of producing the aircraft in Europe under licence. However, if the U.S. Government permitted sales of the YAH-64 to NATO, it is possible that some licence production arrangements could be made. Also in the U.S., Bell Helicopters, which already dominates the world's light-medium helicopter market, has brought out its Model 222 eight-seat twin-engine helicopter, an entirely new design, intended for the growing business helicopter market, but also capable of military duties in the offshore oil industry. M.D.



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Putting space to work

OVER RECENT years, a fundamental change has occurred in space research which has profoundly altered the character of man's exploration of the immediate environment beyond the atmosphere surrounding his planet. This can be summarised as a change in public mood towards space activities. The euphoria engendered by the early years of manned Earth-orbit and moon landing moon missions and other "space spectacular" has given way to a marked desire to see the massive technological achievements generated by the early space flights turned to more scientifically, economically, socially and even politically rewarding spheres. While some proportion of the budgets provided by governments for space research (especially in the U.S.) can still be spent on the acquisition of new knowledge about the solar system of which Earth is part, and to a more limited extent about the universe itself, the emphasis is now more upon not only getting value for money but also in making the still comparatively new science of space technology work for its living.

As a result, the emphasis has shifted on to unmanned Earth-orbiting satellites of a wide variety of uses and in increasing numbers, with in turn considerable emphasis being placed upon the development

of communications, but with other practical uses also much to the fore—such as the monitoring of the earth's mineral and other resources, meteorological research and navigation. It must also be admitted that the military uses of space have not been lost on the major Western nations, and an increasing number of satellites are being launched for military communications, "spy in the sky" and other duties. While at this time, there is no definitive evidence that satellites are already being employed to carry destructive weapons, it seems logical that sooner or later they will do so—and the prospects of such a development that are already appearing in turn the technology of counter-measures, such as the development of laser beams to destroy satellites as well as to attack incoming enemy ballistic missiles.

Efforts

At the same time, there have been considerable efforts on the part of the various governments responsible for funding space developments to try to bring some kind of order into the chaos that threatened to ensue with everybody pursuing his own particular path through the expensive labyrinths of space technology.

One of the most significant developments in this respect has been the formation of the European Space Agency itself, bringing together the collective space resources of many European countries (Belgium, Denmark, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland and the U.K., with countries such as Austria, Canada, Ireland and Norway having observer status).

The ESA in the two years since its formal establishment in 1975 has moved quickly into a substantial programme of space developments, again mainly concentrated, at the hardware end, on the provision of satellites for useful purposes. Probably the most significant among these is the Orbital Test Satellite, or OTS, currently under development for the ESA by a consortium of European companies headed by Hawker Siddeley Dynamics of the U.K., and called MESH. While primarily intended as a precursor of a European Communications Satellite system, the OTS is also significant in that in design and construction it forms the prototype of many other possible types of "user" satellites for the future. The basic satellite vehicle or "bus" aboard which a wide variety of payloads can be mounted, according to the specific mission requirements,

the Europeans, the U.S. and Canadian authorities, but some problems have arisen in the U.S. regarding the financing of this programme. At a recent meeting of the participants, the Aeronautics Council, set up by the parties to run the programme, stressed its desire to see the venture continue, and urged the U.S. to try to settle these funding problems by the end of September, so that clear decisions on the Aeronautics future could be taken.

Probably the two most significant long-term ESA developments now under way in Europe, however, are the Ariane satellite-launching vehicle, and the Spacelab manned re-usable space laboratory.

One adaptation of the OTS already under way, for example, is in the Marots maritime satellite, also under development by the MESH consortium for the ESA for launch next year, and intended to provide ship-to-shore communications on a global basis (in the U.S., the Comsat General Corporation's rival Marist maritime communications satellite is already in service).

Recently put into orbit for the ESA is the Geos satellite, a scientific research vehicle developed by the STAR International consortium, headed by the British Aircraft Corporation, and designed to yield greater knowledge of the magnetosphere. This is the first ESA satellite to be launched into geostationary orbit (that is, its orbit is so closely matched to the earth's own rotational speed that the satellite remains virtually in one spot over the earth, thus greatly enhancing the transmission of instructions to, and the receipt of data from, the satellite system, the OTS).

Also under development for the ESA are the Meteosat, due for launch in 1977 for weather forecasting and other meteorological duties; and the Exosat, an X-ray astronomy satellite being planned by the Aeronautics for astronomical satellite communications. The latter is a collaborative venture between

the Europeans, the U.S. and Canadian authorities, but some problems have arisen in the U.S. regarding the financing of this programme. At a recent meeting of the participants, the Aeronautics Council, set up by the parties to run the programme, stressed its desire to see the venture continue, and urged the U.S. to try to settle these funding problems by the end of September, so that clear decisions on the Aeronautics future could be taken.

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Also under development for the ESA are the Meteosat, due for launch in 1977 for weather forecasting and other meteorological duties; and the Exosat, an X-ray astronomy satellite being planned by the Aeronautics for astronomical satellite communications. The latter is a collaborative venture between

Rocket

The Ariane rocket is being developed to provide Western Europe with an alternative method of launching satellites and other small payloads into near-earth orbit in the 1980s and beyond, in the event of the U.S. for any reason declining to permit foreign countries to share the payload space available on its own Space Shuttle manned re-usable Space Transport System or because pressures of demand may make it too difficult to get launching space on conventional U.S. rockets.

The Spacelab is a manned space laboratory in which, for the first time, scientists, engineers and technicians rather than astronauts—and women as well as men—will be able to travel to and work in earth orbit, in "shirt-sleeve comfort" without needing special clothing or intensive training. The Spacelab is being developed by the ESA in conjunction with NASA of the U.S., and is designed to be carried into near-Earth orbit by the U.S. manned Space Shuttle.

The letter is an advanced space transport system, now in production in the U.S., for the National Aeronautics and Space Administration, for use in the early 1980s, whereby a wide variety of payloads will be carried into orbit in the Shuttle Orbiter vehicle's cargo bay. The Shuttle, combining both the Orbiter vehicle and the Booster Rockets, will be launched from Earth "off a pad" in the customary manner for launching all space vehicles. Before the Orbiter itself goes into orbit round the earth, the Booster will fall away into the ocean and will be recovered for refurbishing for later use. The Orbiter will proceed with its mission, and will then return to earth, several days or weeks later, landing at a specially prepared "airfield" at Cape Canaveral, Florida, like a big aeroplane, where it will also be itself refurbished for further use. It is intended that each Space Shuttle Orbiter and Booster combination will be capable of perhaps up to as many as 100 missions, and it is hoped that the Shuttle will become the major system of living

The business aircraft

MAKING A decision for or against purchase of a company aeroplane is not easy and is likely to be complicated by a variety of non-operational considerations, not the least of which is the personal inclination of the chief executive of a company involved.

Choosing an aircraft is still regarded in some quarters as being in the same league as buying a racehorse or sponsoring a big sporting event, mainly a matter of prestige, to be governed by quite normal business considerations.

To the aircraft manufacturer, this attitude is anathema, not because he has some moral duty to grind about the vanity of prestige, but because it more than brings into the world another dissatisfied customer, when the expense of the private aircraft has quickly outweighed the novelty of the first few prestigious flights.

Companies are also prone to make bad decisions, because purchase of an aeroplane may well be a new experience and one which will not be repeated for a period of years. For these reasons primarily, it is good advice for prospective business aircraft purchasers to get the services of an aircraft

broker's party, admitted by the fact that the business of selling aircraft, he will at least help a potential customer to work out thorough and accurate costings and test the utilisation of the aircraft. On this last point, it will be stressed that the aircraft should not simply be set aside according to management pecking order, but strictly on the basis of useful economic need.

The advantages of business flying are obvious. It is quick, it is flexible. For the flier it is perhaps the most free long-distance mode. The main disadvantage is the purchase price, which is high, but the most popular aircraft in Britain, the per Navajo Chief, comes at £185,000. Depreciated 70 per cent over seven years and with an extra annual cost of £10,000 as insurance, hangarage,

Constraints

To some extent, the cost can be mitigated by not going for an overambitious aircraft as a first purchase. Other problems, such as availability of airports and the constraints imposed by governments, vary according to the country of operation. In general terms, Europe is much more difficult in this respect than the U.S. and American manufacturers, who supply most of the world market in business aircraft, have found the last year particularly hard going in Europe.

In West Germany, recent noise laws have necessitated modifications in U.S. models, and in Italy, it is sometimes hard to obtain aviation fuel. In most European countries, there are problems in gaining customs clearance at anything other than a major airport.

The owners of Britain's business aircraft tend to feel that they have the hardest lot of all, especially when it comes to airports. They have been given notice to quit Heathrow by 1979 because of runway saturation, and there are fears that Gatwick, at the moment the most important and popular airport for business craft, will be declared out of bounds too as Government policies lead to a build up in scheduled and charter passenger traffic from 6m. to 16m. passengers a year.

The strength of the authorities' case in deciding between landing rights for a jumbo-jet full of holidaymakers and a couple of private aircraft carrying four executives is plain enough, but bodies like the Business Aircraft Users' Association argue that the importance of business flying is out of all proportion to its number of passengers in terms of Britain's industrial health. As it points out, its own 57 members represent an annual turnover of £30bn., of which £5bn. is exports.

The argument at the moment is hung over the business aircraft owners' refusal to use Stansted airport, Essex, as a business jet since 1973. London alternative on the grounds of its inaccessibility. Some solution will clearly become urgent, though, as general aviation (mainly business aircraft movements) through the seven airports operated by the British Airports Authority has multiplied fourfold in the last ten years and, in spite of a fall caused by higher fuel costs, expected to resume its upward surge this year.

Partly because of such restrictions, but mainly because of its geographical compactness, Britain has been a sluggish market for business aircraft and now has only about 600 registered craft, out of a total of around 3,000 in Western Europe. This might account for 2m. out of an estimated 40m. flying hours by general aviation world-wide last year.

The U.S. manufacturers are looking for an increase of perhaps 10 per cent to 1,100 units in the number of general aviation craft exported to Europe this year, although this must be regarded purely as a target in view of the industry's

failure to meet projected expansion in 1976. The lingering effects of the fuel crisis can be judged by the fact that Britain has not imported a single business jet since 1973.

In the U.S., however, business flying sales are expected to grow strongly again this year, following a 19 per cent increase in the value of sales to \$1,200bn. in 1976, of which one third was for export. Optimists believe the U.S. will export 3,600 aircraft in 1977.

Dwarfed by comparison, European business aircraft manufacturers still hope to cash in on the strength of the North American market. Dassault-Breguet is doing well in transatlantic sales and Hawker Siddeley had its best year since 1973 last year, selling 20 of its HS125 business jets, of which 11 went to North America.

Another growth area is that of the business taxi, which for the medium sized company can provide an attractive and more realistic alternative to the heavy commitments of aeroplane ownership. A typical charge for an occasional charter in Britain might be around £400 an hour, but this is decreasing considerably if longer commitments are entered into.

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Ian Hargreaves

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- MADGE microwave landing system. Weather radar. The MEL Equipment Co. Ltd. United Kingdom
- Dynafluor baggage inspection systems. Philips Electronic Instrumenta Inc. United States of America

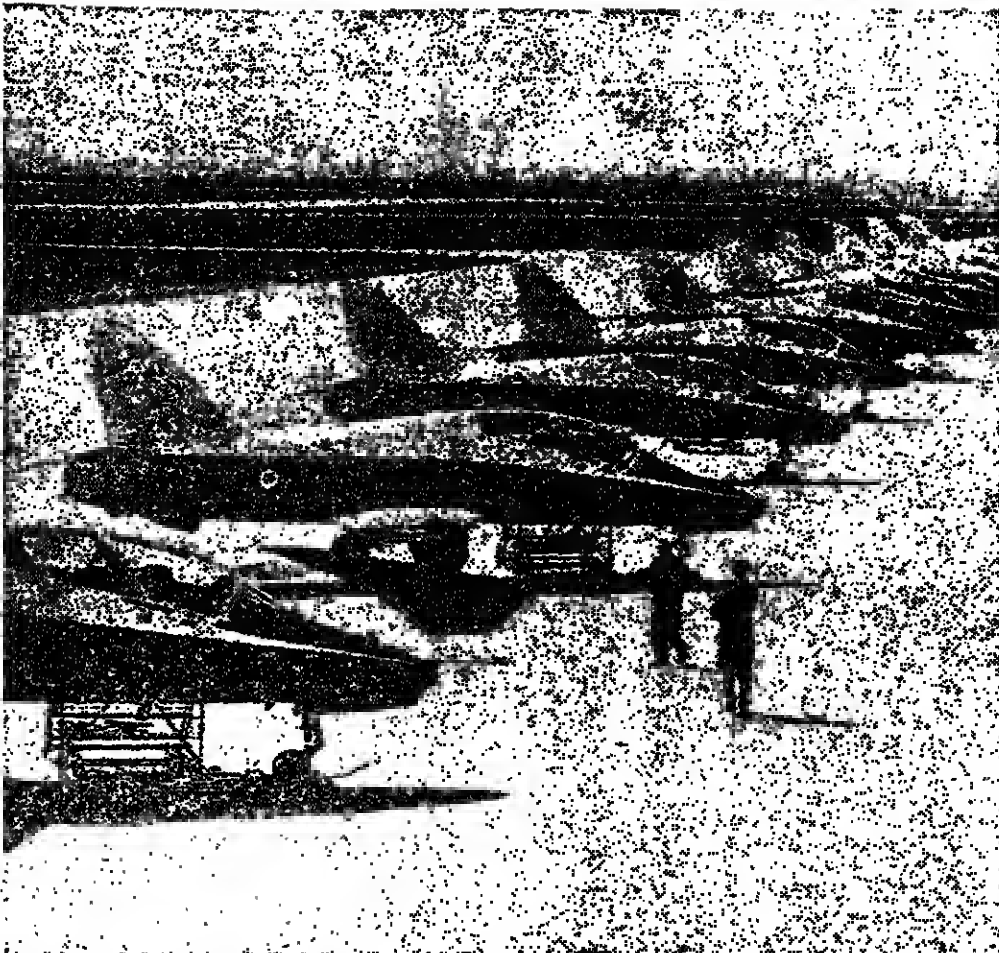
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AEROSPACE XIV

Tight rein for RAF



The Hawker Siddeley Aviation Hawk is now entering squadron service with the RAF. A total of 176 of these aircraft have been ordered by the Ministry of Defence for the RAF, which will use them as "all through" trainers from the basic flying stage through to advanced flying and weapons training. The aircraft is also being offered by BSA to air forces world-wide as a close air-support and light combat fighter. A major order for Finland is being negotiated. The Hawk is powered by a single Rolls-Royce/Turbomeca Adour turbo-fan engine. The picture shows the aircraft on display at RAF Valley, in Anglesey.

THE FREQUENT cuts in defence spending of the past few years have been particularly severe so far as the RAF is concerned, resulting in some significant reductions in the rate of re-equipment with major new weapons systems, such as the Tornado multi-role combat aircraft, designed to enable the service to fulfil its assigned roles in support of Nato.

This is causing the Air Staff considerable concern in the light of the rapid build up of Soviet airpower, especially in the Central Region of Nato in Europe. The recent Defence White Paper made it clear that since 1970, the Soviet air forces have been engaged in a comprehensive programme of re-equipment, aimed at achieving a major advance in the ability of their tactical air forces to engage in conventional offensive air operations, instead of the earlier concept of air defence cover, and in direct support of the Soviet Army. The increase in the Soviet Air Force's combat strength since 1968 is equivalent to the addition of seven air regiments, with the number of Soviet tactical aircraft available in the Central Region rising from 1,655 to at least 1,975, or about 20 per cent, while advanced types of aircraft for "air superiority" roles, such as the Mig-25 Foxbat in various versions, have been seen increasingly in this area.

It is estimated that the Soviet Union is now building not less than 1,900 military aircraft a year, of which over half are high-performance combat aircraft—in terms of numbers enough to replace the whole front-line force of the Nato countries every six months or so. Earlier Defence White Papers indicated that the Nato air forces were already outnumbered in terms of tactical aircraft by 2.3 to 1, and the continued cuts in defence spending in the U.K. have not helped to redress that situation.

ment by Lightnings in the latter role; the Nimrod for anti-submarine warfare and now also for Airborne Early Warning roles; and with the Tornado multi-role combat aircraft now on the way for a wide variety of missions.

Desires

It is not difficult to find senior officers who would like to have many more of each of these types of aircraft and who would also like to have some of them much sooner. But while there is concern about the numbers involved, the RAF is confident as to its ability to use efficiently the aircraft and weapons it has. The RAF is placing special emphasis upon the need to react quickly to any Soviet threat wherever it emerges. This is due to the growing belief, stemming from the rapid build-up in recent years of Soviet conventional forces, and especially tactical air power, that the Soviet intention in any future conflict will be to conduct a swift offensive aimed at depriving the Nato alliance of time—

to introduce 403, a concept with which the RAF is planning to replace its existing Harrier VTOL fighters and Jaguar jet-strike-trainers in the late 1980s. This project is of crucial importance to the RAF, since with the Tornado it will eventually make up the entire RAF combat front line. The basic concept has been under study in the aerospace industry for some time, and during this coming summer, the RAF will be reviewing the solutions proposed by the industry for the various requirements for AST-403 which the RAF has suggested are crucial. AST-403 will be an offensive aircraft based on at least four main operational requirements. The first is the need for good air combat capability over the front-line battlefield. The second is flexibility in performance—the capability of undertaking a variety of roles during the aircraft's in-service life. The third is likely to be the need for vertical take-off performance, in view of the likely threat to conventional runways in an over-developed Europe. Finally, the need is for a comparatively simple, inexpensive design, rugged yet reliable, relying more on aerodynamic than on complex avionics performance, capable of ground attack missions in a battlefield role.

This is a formidable list of requirements, and it has already given the aerospace industry a tough time in trying to combine them in one airframe/engine combination.

The IDS version of the Tornado will become the major RAF weapon in the overland and maritime roles, replacing the ageing Buccaneer and also the Vulcan. Some reconnaissance squadrons will also replace their aircraft with Tornados. In the conventional role, the Tornado will be able to carry a heavy weapons load of free-fall retarded or cluster bombs. Air-to-ground missiles will also be carried, as will other guided weapons being developed for the 1980s. The IDS Tornado will have a nuclear capability, and because of its swing-wing and economical engines, will have a considerable range, flying over hostile areas at low-level to avoid radar detection.

The Air Defence Variant will take over from the Phantoms and Lightnings now serving in the present air defence squadrons. The ADV will have a very large radius of action in this role. By flying combat air patrols with its wings extended, it will be less dependent on the air-refuelling tanker force and will remain on station for long periods far out over the North Sea and the Eastern Atlantic. By sweeping its wings, the ADV will be able to fly at high speeds to intercept and identify suspicious aircraft movements. It will provide better air cover for ships at sea than can be provided by land-based interceptors at present.

The ADV, unlike most new fighter aircraft, is primarily a long-range interceptor — a "bomber-destroyer". It has not been designed to dog-fight at close range, although it will be armed with missiles and provide air defence over a vast area, outside the range of other fighters. It will carry the Skyflash air-to-air missile. The first ADV squadrons will not be formed until well after the IDS squadrons are operational. The ADV will be 80 per cent common with the IDS version, and this will significantly cut support costs. Although tailored to RAF requirements, the ADV should be attractive to several overseas air forces, who require a long-range interceptor.

Another new aircraft destined for the RAF in future is the Airborne Early Warning (AEW) version of the Nimrod anti-submarine maritime patrol aircraft. The AEW Nimrod is intended to range the skies over the U.K. and out into the Eastern and Northern Atlantic, to search for enemy bombers and perhaps also missiles seeking to attack the U.K. and Western Europe from behind. The AEW Nimrod will replace the Shackleton which has been performing this defensive role for many years. One of the AEW Nimrod's tasks, in fact, will be to help vector the ADV Tornados onto the enemy targets that it picks up. Development of the AEW Nimrod is now under way, and the first aircraft should join the RAF in the early 1980s.

Probably the most important future aircraft in the RAF's inventory after the Tornado itself will be what is currently called Air Staff Target (AST) 403, a concept with which the RAF is planning to replace its existing Harrier VTOL fighters and Jaguar jet-strike-trainers in the late 1980s. This project is of crucial importance to the RAF, since with the Tornado it will eventually make up the entire RAF combat front line. The basic concept has been under study in the aerospace industry for some time, and during this coming summer, the RAF will be reviewing the solutions proposed by the industry for the various requirements for AST-403 which the RAF has suggested are crucial. AST-403 will be an offensive aircraft based on at least four main operational requirements. The first is the need for good air combat capability over the front-line battlefield. The second is flexibility in performance—the capability of undertaking a variety of roles during the aircraft's in-service life. The third is likely to be the need for vertical take-off performance, in view of the likely threat to conventional runways in an over-developed Europe. Finally, the need is for a comparatively simple, inexpensive design, rugged yet reliable, relying more on aerodynamic than on complex avionics performance, capable of ground attack missions in a battlefield role.

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The programme, in fact, is likely to be as big as, and as costly as, the programme for development and production of the Tornado. For these reasons it is likely to be the only military aircraft programme conducted in the U.K. for the rest of the century, after the Tornado itself, as far as possible, the AST-403 will be another major international collaborative venture on a wide scale. Preliminary discussions have already been held with the Continental manufacturers, but so far no firm arrangements have been made. It seems likely, however, that before the end of this year, the U.K. Air Staff will have refined its own views on AST-403 to such an extent that the Government will be able to discuss the possibilities of international development and manufacture on a more precise basis in 1978 and 1979 plans for the development of this aircraft will proceed rapidly. What can be said with certainty at this time is that much more is going to be heard of AST-403 in the years ahead.

But while the RAF is concerned about its future aircraft programmes, it is also currently deeply involved in improving its technological expertise in other directions—such as electronic warfare, and in developing weapons that will enable both to neutralise the enemy's defences and allow the RAF to "stand-off" from its targets and still deliver destructive weapons with a high degree of accuracy. As far as electronic warfare is concerned, the RAF is active in the field of self-protective devices, such as radar warning receivers which tell the aircraft that their aircraft is being covered by an enemy radar, thus enabling the pilot to take evasive action. As to stand-off delivery, it has already been announced that the RAF is working on laser-guided bombs, and it intends to exploit this capability to the full in the years ahead.

At the same time, the RAF is showing increasing interest in unmanned aircraft, otherwise known as remotely piloted vehicles, or RPVs (which are often expendable, such as the U.S. Cruise Missile). While there are certain missions which are unsuitable for RPVs, such as maritime patrol, air refuelling and transport, there are others which offer ideal opportunities for the development of this kind of vehicle, such as nuclear strike reconnaissance and conventional attack against both land and sea targets. The RAF is studying the possibilities of future warfare offered by various unmanned aircraft, as to ensure that it can use technology to achieve a quantum advance capability minimum cost.

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COMPANY NEWS + COMMENT

Parkland Textile soars to £1.8m.

RECOVERY continued for Parkland Textile (Holdings) in the second half with a taxable profit of £1,839,464 against £1,344,956 to end the year to March 4, 1977 with a turnaround from a loss of £32,564 to a record profit of £1,813,764. Sales climbed £8.8m. to £23,97m.

Earnings per 25p share were 17.59p (0.22p) and a net second interim dividend of 1.635p lifts the total for the year from 0.858125p to 2.47375p.

Mr. J. L. Haason, the chairman, says that exports in the current year are up 48 per cent, production is on target, order books are at a satisfactory level and it is proposed to increase the level of capital expenditure.

Future prospects are very good but depend upon a strong home market. This emphasises the importance of the current discussions on the multi-fibre arrangement and Government awareness of the need for continued surveillance of cheap textile and clothing imports, he comments.

If and when a new basic tax rate becomes effective the directors

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Macanie (London) improving

COURTAULDS subsidiary Macanie (London) made a pre-tax profit of £275,000 for 1976, against £281,000. The directors state that the improved trend of the second half continued into 1977.

Sales were ahead from £18.67m. to £19.4m., and after tax of £67,000 (credit £145,000), earnings per 10p share emerged at 2.45p compared with £1.2p. The net final dividend of 1.434p makes a gross total of 2.721p against 2.474p.

New reinsurance offshoot for Hogg Robinson

HOGG ROBINSON has launched a new reinsurance company, the Crosswall Reinsurance Company, which will offer a specialist treaty reinsurance service to reinsurance markets world-wide and facilities for all classes of business, proportional and non-proportional, but excluding life reinsurance.

This launch has been made because it is considered that there is still a strong demand for a specialist reinsurance service both in London and throughout the world. The new company will provide an experienced management and underwriting team, supported by a highly trained staff covering the servicing aspects of treaty business. The company's underwriters will travel extensively to keep in touch with world-wide developments.

The initial paid-up capital of the company is £1m. The chairman is Mr. Francis Perkins, former chairman of Hogg Robinson and present chairman of the British Insurance Brokers' Association. The general manager is Mr. David Williams.

PHOENIX MINING

At the adjourned court meeting yesterday for the merger of Phoenix Mining and Globe and Phoenix, Mr. Fraser Bird, chairman, said that as a result of the Shareholders' Protection Committee's statement that it planned to change the Board and dispose of the services of Wall and Company, the companies had been informed that Wall and Company were no longer prepared to enter into a proposed five-year contract.

The present arrangements terminate on June 23 but the firm

Lindsay & Williams in profit

A RETURN to profit, and to the dividend list, is announced by Lindsay & Williams for 1976.

And Mr. J. F. Swanborough, chairman, reports that although current trading remains difficult, margins are being maintained and the benefits of reduced overheads and efficient manufacturing should enable the group to sustain the improvement.

For the second half the company made a pre-tax profit of almost £50,000, compared with a loss of £28,100 in the year-end surplus of £47,663 (£50,336 deficit). With very little increase in the volume of activity, turnover was £2,27m. (£2,03m.).

Before extraordinary items earnings per 25p share were 2.2p (12.0p) and extraordinary items they were 2.4p (12p loss). The dividend payable 1.1p net—the last payments were in 1974, totalling 3.6p.

A provision for deferred tax of £23,681 has been made which represents the liability which would arise if the reliefs for stock increases and capital expenditure had not been available—this tax may never become paid, it is stated.

Mr. Swanborough says that spending cuts in the public sector by governments worldwide have resulted in a low level of demand for high power cables, which accounts for about 80 per cent of group sales.

The volume of exports has increased from 55.3 per cent to 61.3 per cent of total sales. Considerable effort is being made to penetrate new markets and expand the share of total world markets, with notable success in Eastern Europe and the Far East.

Turnover

1976	2,271	2,031
1975	1,973	1,973

Pre-tax profit

1976	47,663	50,336
1975	28,100	28,100

Net profit

1976	24,500	24,500
1975	12,000	12,000

Estimated credit

1976	2,317	2,317
1975	2,317	2,317

Dividend

1976	1,434	1,434
1975	1,434	1,434

Loss. Credit. Debt.

Norman Hay sees big increase

WITH THE augmented capacity of Borough Plating and greater efficiency at the main factory in Harmondsworth, Norman Hay will show a considerable improvement in 1977 profits, forecasts Mr. N. L. Hay, chairman, in his annual statement.

He reports that the company, engaged in electroplating and anodising, has begun to obtain results in the export field which, hopefully, will increase considerably in the current year.

To date the improvement in turnover has been maintained, he adds.

At Harmondsworth additional plant will become operational during the year.

As reported May 3, pre-tax profit was steady at £2,34m. for 1976 on turnover up from £2.14m. to £2.31m.

Meeting, Excelsior Hotel, Heathrow Airport, June 23, 11 a.m.

WALKER PREF. CANCELLATION

C. and W. Walker's plan to exchange its preference capital for ordinary shares is on the basis that for every 20 preference shares a holder will be entitled to 17 ordinary shares. The shares issued under this scheme will be entitled to take up the current rights offer.

Walker states that the terms of the scheme have been discussed with a major institutional holder of preference shares which has stated that it intends to vote in favour of the scheme at a meet-

ing called for Wednesday, June 22.

If the scheme is approved by the necessary meeting and subsequently by the High Court it will be binding on all preference shareholders whether or not they voted in favour.

On the middle market prices of the ordinary and preference shares prior to the announcement, a preference shareholder would make an estimated 197.5 per cent. capital increase, but there will be a marginal decrease in income.

Chemring sees similar full year's profit

Pre-tax profit of radar reflective devices and cable attachments makers Chemring fell from £131,000 to £107,100 for the 26 weeks ended April 29, 1977, on rates slightly down to £0.82m. against £0.84m.

The directors say that the results reflect adverse trading conditions. Orders received, they add, are now showing a satisfactory improvement and profit for the full year incorporating subsidiary Vacuum Reflex acquired on April 29, 1977, should be similar to the £225,000 of 1976-76.

Earnings per 5p share are shown as 2.40 (3p) and the net interim dividend is increased to 0.7p (0.65p). Total for last year was 1.1305p.

Net profit came out at £30,700 (£32,800) after tax £30,400 (£32,100), and the amount attributable was £48,200 (£61,400). Vacuum Reflex, the director says, will broaden the company's product base and generally strengthen its operation.

Legal and General

W. A. Blackburn of Coventry has sold seven office blocks in the Midlands to Legal and General Assurance (Pensions Management) for a total of £7m. L and G's managed fund, the largest property investment vehicle of its kind, stated that the initial value of the portfolio was 7.25 per cent.

The total lettable floor area of the properties is 207,000 square feet and income at present is £254,555. Tenants include the Post Office, the Department of the Environment, Telford Development Corporation and W. A. Blackburn, the vendor.

The freehold properties are in Newcastle-under-Lyme, Hanley, Coventry, Kettering and Nuneaton. The one long leasehold property is in Telford.

WOLVERHAMPTON DIE SAYS ACCEPT SOMERS

In a letter to holders regarding the agreed offer by Stinchell Somers, the chairman of Wolverhampton Die Casting Group states that the formal offer document will contain a recommendation to accept the offers and a forecast of profit for the year to June 30, 1977 which is expected to be below the profit achieved last year.

BIWATER SHELLBEAR

The offer on behalf of Biwater for the capital of Shellbear Price has become unconditional in all respects. Acceptances represented 52.3 per cent of the equity. The offer remains open until further notice. The balance of the shares will be acquired compulsorily.



Mr. Alex Jarratt, chairman of Reed International, which is to-morrow due to announce results for the year ended March 31, 1977.

O. C. Summers second half recovery continues

THE directors of civil engineers and public works contractors, O. C. Summers (Holdings) have decided not to recommend a dividend for 1976. In the previous year 5p net was paid.

Turnover for 1976 was slightly lower at £5.68m. (£5,91m.) and a loss of £0.23m. (£76,633 profit) was incurred after £106,023 tax relief (164,423 charge) and extraordinary items of £119,958 (£57,411).

Share loss per 25p share was 5.5p (5.2p earnings) before extraordinary items and 11.3p (5.3p earnings) after.

In February this year the directors said that while the first half loss of £289,000 (£25,500 profit)—after a credit £76,000 (profit)—would not have been eliminated by year-end, profits had been made in the second half.

They say now that as indicated in their interim report, the current year has started reasonably well and internal management accounts indicate that the profitable trend of the second half of 1976 has continued in the first quarter of 1977.

Comment

Aside from write-offs relating to the disposal of Envis, Summers has turned in a second half profit of £80,000. The reason for the recovery following an interim loss of £276,000 can be found in last year's hot weather which caused under-forecasting of work and made for a lot more work for Summers' contracting division (the principal activity).

As for prospects, Summers is overwhelmed by the level of government spending and though the company reports a higher level of activity and continuation of profits, it is hard to be very optimistic. Perhaps shareholders could feel more confidence in a recovery if a dividend had been paid, even a token amount. Net assets per share have probably been clipped by 10p or so in the year, but the share price is 25p probably reflects some speculation over the 38 per cent stake by Warren Tea now that its

Kayser Bondor setback

IN SIGHT of action taken to reduce history manufacturing capacity in the U.K. and South Africa, Courtauld's subsidiary Kayser Bondor incurred a 1976 pre-tax loss of £105,000 against a profit of £476,000 on sales up from £14.5m. to £14,800m.

All halfways there was a loss of £299,000 (profit £33,000) and directors expected that better results from the licence business in the second half would not be sufficient to prevent an overall loss at fulltime.

However, the directors say there has been a return to profitable trading in the first part of the current year.

Stated earnings per 25p share were 2.5p (0.95p) and the net dividend is lifted to a maximum permitted 1.74p (1.5625p). If the basic rate of tax is amended the change will be taken into account when the 1977 dividend is paid.

There was a tax credit of £200,000 (£143,000) leaving a net profit of £185,000 (£108,000) which £48,000 (£49,000) was retained.

Allied London Props.

Progress was maintained by Allied London Properties in the half year to December 31, 1976, with a rise in pre-tax profit from £390,633 to £448,557.

The net interim dividend is raised from 0.1232p to 0.28375p per 10p share. Last year payments totalling 2.437p were paid from profit of £0.83m.

ISSUE NEWS

£800m. long tap

The prospectus will be published on Wednesday for the issue of £800m of Treasury 3 1/8 per cent stock 1981 at a price of 94 per cent.

The stock, which will be redeemed on January 10, 1981, will be payable at £15 per cent, on application, £15 per cent, on July 7 with the balance due on August 8.

Interest will be payable half-yearly on January 10 and July 10.

The first payment of £5.50 is due next January.

The application list opens on Thursday, June 2.

The redemption yield is 12.69 per cent, and the flat yield is 12.50 per cent.

ROCKWARE—96%

Rockware's £3m. rights issue on

MID. SOUTHERN WATER OFFER

Underwriting has been completed for an offer for sale by tender of 25m. Mid Southern Water Company 5 per cent Redeemable Preference Stock.

Full particulars will be available to-morrow.

Brokers to the issue at Seymour, Pierce and Co.

Dividend table

Page 35

tors will consider payment of a further dividend as a supplement along with the next interim payment.

	1977	1976
Sales	23,971,163	17,128,784
Trading surplus	2,565,725	881,346
Depreciation	542,520	444,073
Interest	342,220	35,564
Pre-tax profit	1,633,784	35,564
Tax	1,633,784	35,564
Net profit	1,321,861	38,944
Pre-dividend	7,525	7,573
Ord. dividend	179,261	54,284

* Transfer to deferred tax related to stock relief. Credit.

comment

The downturn experienced by Parkland Textile in 1973-76 was dramatic; the pre-tax figure is the highest in the company's history, 67 per cent. above the previous peak in 1972-73. This is due to a mixture of improving market conditions—notably the weakness of sterling which has helped increase exports by 48 per cent—and changes in management which have brought remedial action. For example, stock-turn has been improved, staff reduced and the loss-making double Jersey side scaled down. But not all the action has been of the company's surgery? Kind; the level of capital expenditure has also been increased. The outlook for the current year is good and profits could rise by a quarter or more. So the shares at 43p, on an historic p/e of only 2.4 and a yield of 10.6 per cent, could continue to show relative strength.



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Through him, for example, you can tap a vast reservoir of financial, investment and taxation expertise that, taken together, we call Barclaytrust.

Barclaytrust exists so that people with enough money to worry about (as distinct from those who worry about not having enough) can make the most of what they've got.

So that people like you don't end up paying more tax than you should.

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So that you can have a team of full-time specialists on your side when providing for your family's future.

Ask your Barclays Manager about Barclaytrust soon. He knows all about it.

Handwritten note: 100% 100%



American Express International Banking Corporation

CONSOLIDATED BALANCE SHEET
March 31, 1977*

Assets	
Cash and due from banks	\$ 392,296,000
Time deposits	648,136,000
Investment securities—at cost	540,582,000
Investment securities—at lower of aggregate cost or market	9,672,000
Loans and discounts, less reserves: \$52,871,000	2,084,400,000
Accounts receivable and accrued interest (net)	98,723,000
Land, buildings and equipment—at cost, less accumulated depreciation and amortization: \$14,998,000	33,406,000
Customers' acceptance liability	78,790,000
Other assets	65,073,000
	\$3,947,080,000
Liabilities and Shareholders' Equity	
Customers' deposits and credit balances:	
Demand	\$1,117,885,000
Time	2,049,864,000
Total	3,167,749,000
Special deposit liability to U.S. Government	85,000,000
Notes and debentures payable	15,266,000
Borrowed funds	81,202,000
Due to American Express Company and subsidiaries (net)	156,820,000
Drugs outstanding	31,334,000
Acceptances outstanding	78,790,000
Accounts payable	82,377,000
Other liabilities	51,810,000
Total liabilities	3,766,468,000
Shareholders' equity:	
Capital Stock:	
Preferred—5% cumulative, \$1,000 par value:	
Authorized—40,000 shares	
Outstanding—25,000 shares	25,000,000
Common—authorized and outstanding	
60,000 shares of \$100 par value	6,000,000
Capital surplus	28,329,000
Net unrealized losses on equity securities carried at lower of aggregate cost or market	(782,000)
Retained earnings	120,045,000
Total shareholders' equity	178,612,000
	\$3,947,080,000

* Unaudited

BOARD OF DIRECTORS

HOYT AMMIDON
Honorary Trustee and former Chairman of the Board, United States Trust Company of New York

RICHARD F. BLANCHARD
Vice Chairman of the Board, American Express International Banking Corporation

RICHARD M. BLISS
Chairman of the Board, American Express International Banking Corporation

MAGNUS R. BOHM
Retired Vice Chairman, General Foods Corporation

HOWARD L. CLARK
Executive Director, Executive Committee, American Express Computer

CHARLES A. COOMBS
Former Senior Vice President, Federal Reserve Bank of New York

EDWIN D. ETHERINGTON
Corporate Director and Trustee, the United Energy, Westinghouse, and American Express and American Express International Bank Exchange

JAMES R. GREENE
Vice Chairman of the Board, American Express International Banking Corporation

HENRY H. HENLEY, JR.
President and Chief Executive Officer, Client Services & Co., Inc.

ERNEST J. LOEBBECKE
Director and Trustee, American Express International Banking Corporation

WILLIAM MCCHESENEY MARTIN, JR.
Director of U.S. House of Representatives and former Chairman of the U.S. Government's Federal Reserve System

ARCHIE R. McCARDELL
Consultant and Chief Operating Officer, Xerox Corporation

ROGER H. MORLEY
President, American Express Company

RALPH OWEN
Former President, Equitable Securities, Mortgages & Co., Incorporated

JAMES D. ROBINSON III
Chairman of the Board, American Express Company

ROBERT V. ROOSA
Partner, Brown Brothers Harriman & Co.

WHITNEY STONE
Chairman of the Executive Committee, Stone & Webster, Inc.

MARTIN R. WALLACE
Executive Director, Board of Directors of Treasury Trust Foundation, Inc.

RAWLEIGH WARNER, JR.
Chairman of the Board, American Express Middle East Development Co.

EUGENE R. BLACK
Advisor to the Board of Directors

AMERICAN EXPRESS International Banking Corporation

provides businesses, financial institutions, governments and individuals with a wide choice of international financial services, including short term working capital and trade financing, term and project finance, foreign exchange, collection, deposit and money transfer services.

International Commercial Banking Branches and Offices of Subsidiaries: Amsterdam, Antibes, Anvers, Athens, Bahrain, Basle, Bombay, Bonn, Bad Godesberg, Brussels, Cairo, Calcutta, Cannes, Chittagong, Cologne, Copenhagen, Dacca, Dubai, Düsseldorf, Florence, Frankfurt, Geneva, Grand Cayman, Hamburg, Heidelberg, Hong Kong, Jakarta, Jarkarta Kota, Karachi, Kowloon, Lahore, London, Lyons, Manila, Mestre, Milan, Monte Carlo, Munich, Naples, New Delhi, Nice, Okinawa, Paris, Piraeus, Rome, Salvador, Seoul, Singapore, Taipei, Tokyo, Venice, Vienna, Zurich. Agencies: New York City. Representatives: Birmingham, Caracas, Edinburgh, Manchester, Amex Bank Limited, London. American Express Middle East Development Company: A.L., Beirut, Amman. American Express Middle East Development Co. (Amadco) Egypt S.A.E., Cairo. The Bancorp Group, Inc., Manila (29% owned), Mutipar, Lila, Rio de Janeiro (30% owned).

International Headquarters: American Express Plaza, New York, N.Y. 10004

Joy 1.50



At the 78th Annual General Meeting held in London on 30th May, the Chairman Sir Reay Geddes KBE said:

THE accounts before you report on the third successive year in which there was a rise in the Company's profits. In a period which was unhelpful for business, the results demonstrate the Company's underlying strength and the benefits of its product and geographical diversity.

With three good years behind us - years in which we husbanded and carefully allocated our resources - we can now seek faster growth. This is reflected in our capital spending plans for the three years to end-1979, which are more than double the level of the previous three years. Even allowing for increased costs, they represent a significant increase. Just over a third of the total - some £84 million - will be spent in the United Kingdom for modernisation and for expansion.

An International Company at Work

This capital expenditure programme represents a change of gear. But the emphasis will still be firmly placed on selective expansion. What does this mean in practice?

The main criterion has been, and will continue to be, profitability. But the term has wider implications. We, with our partners, Pirelli, are essentially European-based. But from the early days of both companies, there was a natural movement towards overseas marketing and manufacture with the growth of motoring and road transport and the increasing use of electricity.

The growing protectionism of the 1930's and the industrialisation of the former colonial territories in the two decades following the war provided new impetus to overseas development. So that now the Dunlop and Pirelli companies together manufacture in 29 countries - in 30 when the new tennis ball factory in the Philippines comes into production - and we market our products in some 150 territories round the world.

However, the European Economic Community remains both the head and heart of our operations - the managerial and technological base. And despite the many problems of recent years there are opportunities for profitable growth in products as diverse as tyres, cables, highly specialised industrial products in which we command technical superiority, fire fighting equipment and sports goods.

It would be prudent to recognise that growth in the mature economies of the E.E.C. may well be slower than in many overseas countries in the next few years. Nevertheless, the E.E.C. remains a diverse competitive and stimulating market of high purchasing power.

This constitutes both a challenge and an opportunity - to sustain a major presence in the heartland of Europe as a means of taking advantage of growth wherever it may occur. For if we do not seize the opportunities as they occur, our international competitors will not be slow to do so. Fortunately, we are now in a strong position to take new initiatives, and the growth prospects for our present activities are encouraging.

In addition to the expansion of our operations in the U.S.A., Malaysia and Nigeria, many developing countries are at the stage where the growth of road transport, electrification and communication networks will be rapid. Dunlop experience of tropical agriculture has led us into development work in the treatment of agricultural effluent which may well have wider applications. The promotion of our specialised industrial products and engineering skills is being actively pursued in more sophisticated markets.

At the same time, we are diversifying our North American activities with a new factory to make irrigation hose, in which we can justifiably claim to be world leaders, while our factories in the U.K. are being expanded to enable us to meet the growing demand elsewhere in the world.

Our knowledge of the water business and the need for irrigation has led us to establish a new division - Dunlop Irrigation Services. This is not just concerned with products but will provide consultancy services and management of large-scale irrigation projects primarily in the Third World. At present, the division is particularly active in the Middle East and has obtained its first contract for a feasibility study in Egypt. In fact, the Middle East is an area of considerable interest to the Company and a number of studies are under way for the provision of turnkey projects for tyres and selected consumer products.

So as new markets open up, the Company's response is changing and quickening.

And so, too, are the attitudes of host countries. The achievement of



Hydraulic hose in India

DUNLOP An international company at work

independence by many developing countries brought with it a surge of nationalism. In economic terms, this was often reflected in a rejection of an open international system for the movement of goods, capital and 'know-how'. In the late 1960's and early 1970's, multinational companies were often portrayed as obstructing the aspirations of developing countries. But now they have resolved to put their basic needs first and are learning that exclusive nationalism and government finance are not the only, nor always the best, solutions.

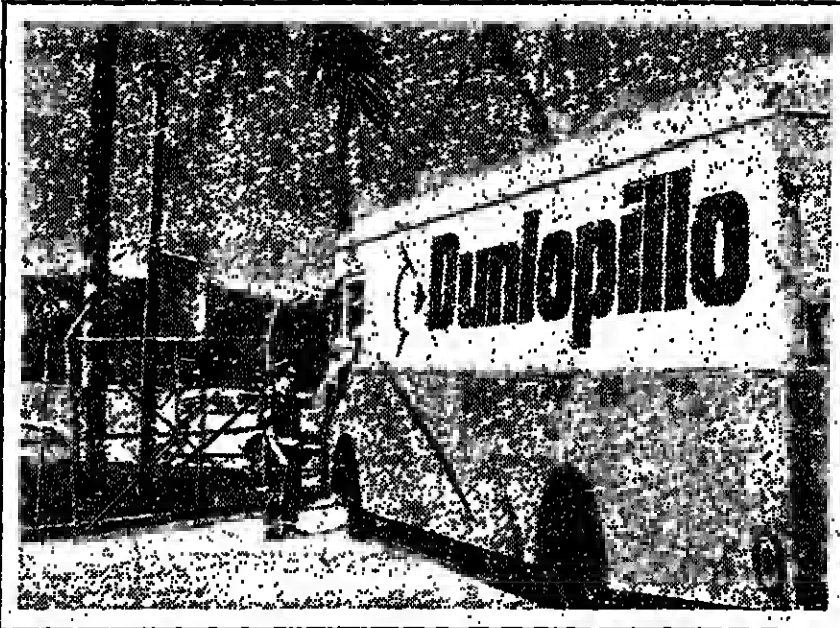
Look behind the headlines and the rhetoric of international conferences. The demand to regulate or dismantle the multinationals is being replaced by the questions - how best can their contribution be maximised? and within what kind of framework? It is not without significance that there are now some 150 bilateral agreements for the protection of foreign investment signed by developing countries.

The acceptance of the market economy - combining personal and corporate incentives with social responsibility - is far from complete but international companies are now more welcome as working partners with host countries, provided we show by our conduct that we recognise their problems and act constructively to find mutually acceptable solutions.

Political and social change goes on. We cannot wish it away even if that were desirable. So the question for an international company to answer is - how can we best adapt our policies to meet the legitimate and durable aspirations of governments without damaging our essential role as creators of wealth? This is a continuing challenge to management.

Just as the nature of the political environment is changing, so are the trading environments. As a result of inflationary pressures, there are government-imposed price controls in virtually every country where we operate, with the exception of Germany and the U.S.A. These are often seen as a direct quid pro quo for wage and salary restraint. Many economists would argue that these price controls cannot, for long, achieve their primary purpose in restraining wage demands, but lead to distortions in the market place, and adversely affect capital formation. Moreover, they bear most heavily on the large and visible firm; and there appears to be a real danger that they will become semi-permanent features of the industrial environment.

In this situation, to achieve and maintain adequate profit margins means ever greater emphasis on cost saving and productivity. But response to competitive change and new investment suffer; so therefore does growth and the creation of new jobs. And that involves people.



Dunlopillo in Malaysia

Participation

Dunlop now employs 102,000 people, of whom 54,000 work outside the United Kingdom. Our expansion overseas has been achieved by harnessing the vitality, imagination and skills of many nationalities and races. In building the business, they have participated in it in the most practical and meaningful way possible. But the word 'participation' has taken on a highly political meaning. Why is it that so many progressive and moderate businessmen in this country are so resolutely opposed to the proposals of the Bullock Report?

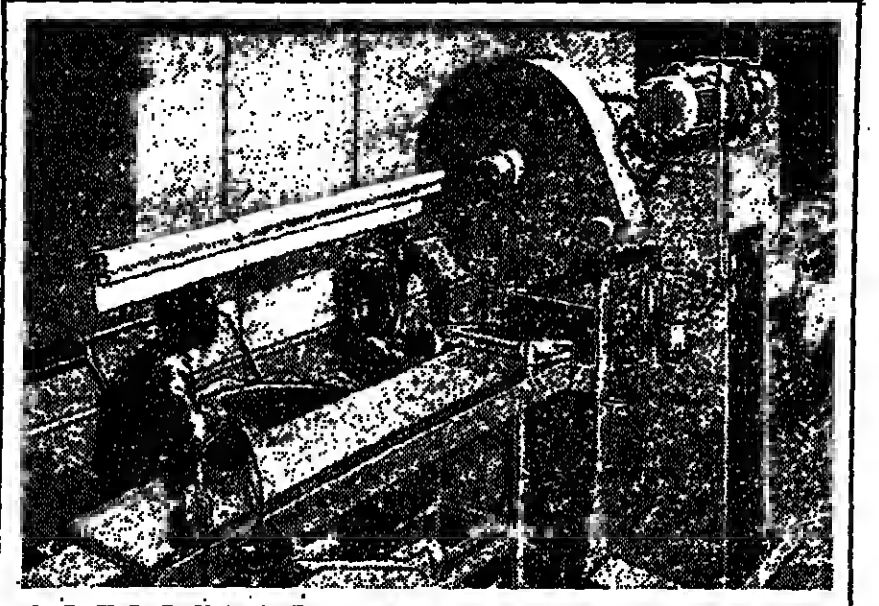
There is no need to rehearse again the false and misleading comparisons with German experience which took place in a very different environment. Yet there is no doubt that some people looked in the Bullock Enquiry to indicate a new way forward in industrial relations. We do not believe the report provided it. On the contrary, by concentrating on wicker directors, it became fascinated by the tip of the iceberg; and so failed to relate properly to the nine-tenths beneath.

Even the trade unions are divided - horizontally and vertically. And not surprisingly, for there is a genuine ethical problem for trade union nominees in protecting and promoting the interest of their British constituents, whilst balancing that against the interests of the several stakeholders in the business in many countries. It sounds well to say that trade union directors would be representatives not delegates, but how does an honest and concerned trade unionist resolve the dilemma?

Nor is this a theoretical question. The sceptical responses from all levels within Dunlop have made it clear that they are well aware of this dilemma and are not interested in Board membership if it conflicts with their trade union's traditional role.

But opposition to worker directors imposed by law should not be construed as hostility to more participative management. People are genuinely interested in greater involvement at the point where it matters to them most - at their place of work. The need to induce a greater sense of understanding, responsibility and competitiveness remains. If that can be achieved by a greater degree of participation, then we should be prepared to put it to the test.

In this respect, we believe that there is much to commend the C.B.I. approach of a Participative Agreement which can be tailored to suit the needs of the individual enterprise at a particular stage in its development, and with the emphasis on building a participative structure from the bottom. One obstacle to be overcome is that in recent years more and more matters have become subject



Floor tiles in Kenya

to trade union negotiations. This has led to increasing fragmentation with each sectional interest negotiating separately. We are working hard to forge links between the separate consultative committees, first on a site by site basis, and then at the level of our product divisions which are sizeable businesses in their own right.

This in itself is a major exercise and will involve a considerable consultative programme. How much further, and how fast, we can go will depend on the value of this experiment and the response in practice of those who work with us. But if it is to succeed, any system must also strengthen the authority of the manager to manage, and of the trade unions to discharge their part of every agreement. If we can get this right, not just in the Company but in the country, then it could be a real step forward in the competition for secure productive jobs, rising social standards and quality of life. Surely this would appeal to the majority of people in this country?

The Way Ahead

The performance of the last three years, the range of skills, and the international strength and vitality of the Company augur well for the future. So, with the Company on the move again, the Board felt that the time was appropriate to ask shareholders for additional funds in the form of the rights issue.

Although our borrowing facilities were adequate for the foreseeable future, we decided that it was desirable to lower the proportion of borrowings to total funds employed and to be in a position to put more permanent capital into our subsidiaries. At the same time, we announced that unless there were any unforeseen circumstances, the dividend for 1977 on the increased capital would be increased to 5.3p per share net, equivalent to 8.153p with the related tax credit now in force.

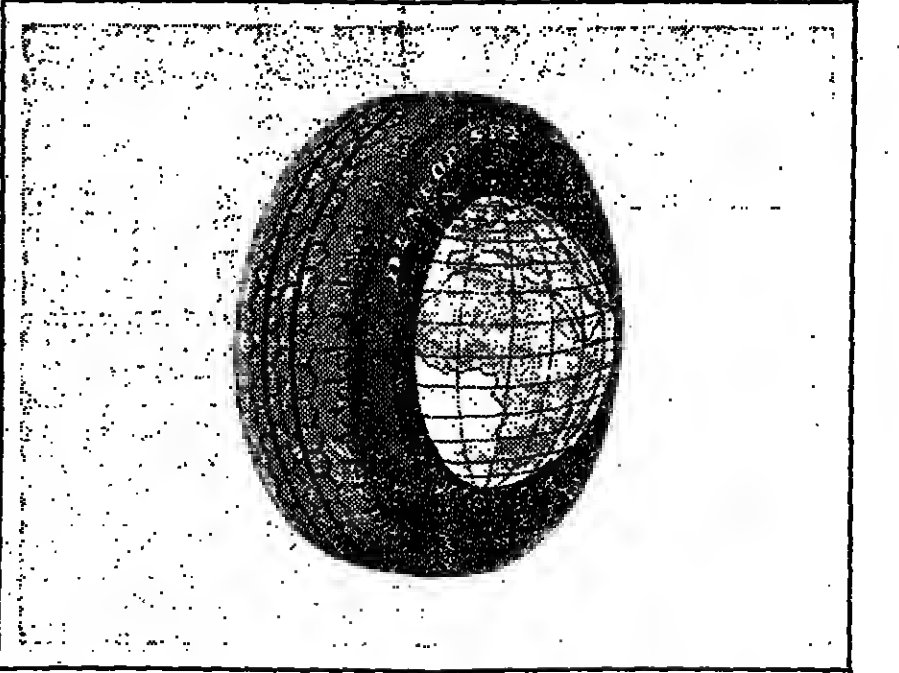
As to the current year, I cannot usefully add to the statement in the recent prospectus for the rights issue that we would expect to be able to maintain good progress.

The Board

One of the resolutions before the meeting is to elect Mr. J. R. Scott as a Director of Dunlop Holdings Ltd. Mr. Scott, who joined the Board of Dunlop Ltd. in 1975, has been with the Company for some 20 years in a number of senior posts at home and overseas; and is presently responsible for the Overseas Group. His election would strengthen the executive element of the Board.

It may be of interest to shareholders to know that the average age of the executive directors of the Company will then be 51 and of the Board as a whole 56. As the improving results have shown, the management team at headquarters and in the field is strong.

On a more personal note, the business will be nearly 90 years old next year. I have served it for about half that time. I feel, therefore, that it would now be appropriate for me to tell you that it is my intention to retire from the Chairmanship at the conclusion of the Annual General Meeting in 1978. The Board proposes to invite Mr. Campbell Fraser, the Managing Director to assume the Chairmanship of the Board on my retirement.



Tyres worldwide

Copies of the speech, the Annual Report and Accounts, and "Report to U.K. Employees 1976" can be obtained from the Secretary, Dunlop Holdings Limited, 25 Ryder Street, London SW1Y 6PX.



DUNLOP HOLDINGS LIMITED

Dunlop now aiming for faster growth

WITH THREE good years behind it, Dunlop Holdings, the international manufacturing group, would now seek faster growth, Sir Reay Gaddes, chairman, told yesterday's annual meeting.

This was reflected in Dunlop's capital spending plans for the next three years, to end 1979, which were more than double the level of the previous three years.

"Even allowing for increased costs, they represent a significant increase," Sir Reay observed.

Just over a third of the total investment is for modernisation and expansion.

Turning to prospects for the current year, the chairman said it could not usefully add to the statement in the recent prospectus for the one-for-three rights issue, but he expected to be able to maintain good progress.

The capital spending programme represented a change of view, Sir Reay continued, but the group would still be firmly based on selective expansion. The main criterion would continue to be profitability.

Despite the many problems of recent years, there were opportunities for profitable growth in products as diverse as tyres, cables, highly specialised industrial products, fire-fighting equipment and sports goods.

The "EEC" remained the managerial and technological base of the group. But it would be prudent to recognise that growth in the mature economies of the EEC might well be slower than in any overseas countries in the next few years, the chairman added.

"Nevertheless, the EEC remained a diverse, competitive and stimulating market of high-purchasing power.

This constitutes both a challenge and an opportunity to sustain a major presence in the heartland of Europe as a means of taking advantage of growth wherever it may occur, Sir Reay declared.

"For if we do not seize the opportunities as they occur, our international competitors will be slow to do so. Fortunately, we are now in a strong position to take new initiatives, and the growth prospects for our present activities are encouraging."

In addition to the expansion of operations in the U.S., Mexico and Nigeria, many developing countries were, at the stage where growth of road transport, electricity and communication networks would be rapid.

Dunlop was diversifying its North American activities with a new factory to make irrigation equipment, in which it could justifiably aim to be world leaders, Sir Reay said.

A new division had been established—Dunlop Irrigation Services. It was not just concerned with products, but would provide consultancy services and management of large-scale irrigation projects primarily in the third world. The division was particularly active in the Middle East.

Sir Reay announced that the chairman would retire at the end of the 1978 annual meeting. The Board proposed to invite Mr. J. Campbell Foster, managing director, to succeed him.

At other meetings yesterday, the chairman reported as follows:

The Laird Group, Sir Ian Laird reported, as far as National Aviation was already in the hands of the British Aerospace Corporation and the final act of vesting the 20 per cent share in the holding in Cammell Laird Shipbuilders would take place on July 1.

The compensation proceeds would be reinvested in industrial assets, including the further development of the existing group.

Turning to prospects for 1977, Sir Ian reported that the uptick in profits in 1976 was the result of a sharp improvement in the contribution from the group's substantial interests outside metal industries. The metal industries division which is dominated by steel, did well to break even. This result was made possible by the new steel-making plant, which produced substantial cost savings, he said.

The chairman felt that the task of moving profits ahead in 1977 was likely to fall once again upon the group's diverse interests outside steel, and a number of factors suggested there was a reasonable chance of further improvement taking place.

In the first four months, group profits were running in advance of the levels seen in the same period in 1976. In addition, more capacity in motor components, particularly in West Germany, was coming on stream.

The order-book in transport engineering and in other areas in the Group remained satisfactory.

In particular, demand for the group's resistance welding equipment, both from home and abroad, was currently strong.

Sir Ian said that based on these prospects, and on the group's strong liquidity position, the current year should be one of greater opportunity for Laird.

Magnolia Group (Holdings) Sir R. J. Whitehead reported that in the first four months of this year results were already showing an encouraging improvement compared with 1976.

"I feel reasonably confident that we can expect this situation to continue barring unforeseen circumstances."

The development of overseas markets was being vigorously pursued and the group was selling to a greater number of customers than ever before.

The chairman said he was convinced that the decision to widen the range of mouldings would further enhance future prospects.

over the equivalent period last year, say the directors. They expect half-year profits to show a substantial increase over last year's half-year results.

Due to the importance of the state of the economy on Christmas trading, it is not possible to forecast the extent of the full year's increase, although a satisfactory rise is expected, they state.

Should the basic rate of income tax be reduced, the amount of a third interim dividend will be paid of an amount equal to the reduction in the tax credit from the current rate of 35 per cent, it is stated.

The dividend will be payable at the same time and to the same holders as the interim dividend for 1977/78.

Argus more than doubled to £0.93m.

For 1976, pre-tax profits of Argus Press Holdings, a subsidiary of British Electric Traction Company, more than doubled from £436,277 to a record £842,925 after £448,800, against £185,800, at half-year.

Turnover for the year was £11.1m, compared with £14m.

Earnings per 25p share are stated as 12.3p (4.57p) and the dividend is lifted to 2.25p (£242,438) including a special dividend of 1.17p (4.57p) with a final of 8p net.

Tax took £508,544 (£283,220) and minorities £18,941 (£16,053).

For 1975 there were extraordinary profits of £223,140.

The amount retained is £130,880 (£581,787).

The subsidiary Argus Press Ltd, reveals record taxable profits of £587,480 against £449,432 on turnover of £11.1m (29.1m).

Earnings per £1 share are more than doubled from 9.34p to 22.8p and the dividend is stepped up to 15.75p against 11.26p (19p) including a special dividend of 6.49p (9.75p net).

Tax took £508,544 (£283,438) and minorities £18,941 (£16,053). There were extraordinary profits of £223,140 for 1975. A total of £128,355 (£89,559) is retained.

FT Share Information Service

The following securities have been added to the Share Information Service appearing in the Financial Times—

FFI 14ps 1983 (Section: Loans, Miscel).

Xonics Incorporated (Section: Americans).

DIVIDENDS ANNOUNCED

Company	Date of payment	Current payment	Date of announcement	Total of 1976	Total of 1977
Allied London Int.	0.89	July 22	0.81	2.49	1.35
British American Film	1.71	—	1.55	1.71	1.35
Enalon Plastics	1.15	—	1.5	4.44	6.52
Bonifay	1.31	Aug. 13	1.31	—	1.31
Kayser Sonder	1.74	July 23	1.58	1.74	1.38
Lindsay & Williams	1.0	July 23	Nil	1.0	0.83
Parkland Textiles 2nd Int.	1.63	—	0.83	2.84	10.38
Stag Line	3.8	—	3.3	—	3.0
D. C. Summers	Nil	—	1.5	Nil	3.0

British & American Film lower

Excluding the results of wholly-owned subsidiaries British and American Film Holdings reports a decline in taxable profit for 1976 from £44,218 down to £38,738.

Profit before subsidiaries slumped by £20,824 to £17.2m, on turnover down from £1.26m to £1.4m.

At half-time the holding company showed a profit of £24,104 (£12,850) and the subsidiaries £112,221 (£59,622).

44 companies wound-up

Orders for the compulsory winding up of 44 companies were made by Mr. Justice Brightman in the High Court yesterday.

They were: Double Arrow, Direct Drive Designers Group (Fitted), F. Hill and Co. (Hauliers), Stanhope (Farm Works) and The Contract Furnishings Equipment and Shopfitting Company.

HOLDING COMPANY	1976	1975
Owned invest. inc.	62.30	48.87
Disposal	1.07	1.15
Interest received	2.57	12.21
Depreciation	1.23	1.23
Director's remun.	1.30	1.30
Auditors' remun.	0.80	0.80
Interest paid	1.76	2.28
Less: 1976	18.28	44.22
Pre-tax profit	36.28	24.28
Minorities	24.28	24.28
Net profit	12.00	17.28
Unfranked div.	28.80	28.80
Less: 1976	11.22	11.22
Dividend	17.58	17.58
Less: 1976	11.22	11.22
Carried forward	148.20	128.48

WHOLLY-OWNED SUBSIDIARIES

Turnover 43,415 137,372

Pre-tax profit 12,222 22,222

Minorities 1,000 1,000

Tax credit 1,000 1,000

Dividend 30,000 30,000

Less: 1976 14,523 14,523

Payment for lease variation and rent reduction 1,000 1,000

After exchange losses of £1.1m, C. J. Harvanan (Insurance Charge).

The directors have paid a dividend from a subsidiary to the holding company out of the subsidiary's profit for 1976, without first making good its past losses.

London Leval and Allied Properties, O. C. Products Harlow, Westhampstead Engineering and Spinning Company, Concrete Frame Construction (Southampton), Rosa Ross and Adelford, Haddon Road Services, Alcco, Aron Building Consultants, Blunt Brothers, Bricknell (Builders), Romas (General Carriers), Chemical Services Herts., and Hambleja, S. and S. P. and F. Company, Abington, E. W. Hewlett, Howard House Investments (Marylebone), Headream and Spectra Plating Company, Condit Holdings, Chadbrook Engineering Company, American Handbags Supreme Display, Youngplains, Hurstbut and M. Hynson and Sons (Hemel), N. E. Cargill, Texas Building Services, Covered Fashion Shops, C. J. Harvanan (Insurance Brokers), Teosow and The Shileno Hosiery Company, J. S. Beagley, Bath and South West Contractors, Twinkl (Installations), Purton Developments (Kirkham) and Greek Revolution.

CMB, s.a.

EXTRACTS FROM THE DIRECTORS' REPORT TO THE ORDINARY GENERAL MEETING OF MAY 4, 1977

CMB's activities have continued in 1976 to suffer from the effects of the economic crisis in the world. The drop in freight supply felt by its regular services as from the summer of the previous year, has been confirmed and has greatly influenced the loading factor of vessels. The ephemeral economic revival—which occurred towards the middle of the year under review—contributed slightly towards an improvement in the situation, but results are nevertheless in recess in comparison to those of 1975.

The lines to Africa have been affected by the political events which occurred in Angola and Rhodesia, causing the internal communications network to be thoroughly disturbed: prolonged paralysis of the railroads to Lobitza and closing of the Rhodesia-Mozambique border, isolating Beira from its natural hinterland. On the other hand, the new railway linking Lusaka to the port of Dar-es-Salaam has come into service.

In the American sector, operational conditions have proved satisfactory on the South American run but have remained very difficult on the Gulf of Mexico. The revival of the American economy has enabled Dart Containerline to improve its loading coefficient on the North Atlantic service.

On the Far East line, the Franco-Belgian Services have carried on their implantation with promising results. The "Mercator" container vessel with a loading capacity of 1,450 twenty foot units, which is jointly owned by CMB and Ablers, has just been commissioned.

During the financial year, all efforts of the company have tended towards the adaptation of its exploitation to the circumstances on each of its liner services, the modernization of its naval equipment and the diversification of its operations.

It has participated in the creation of the "Euro-Arab Sea Trailer Ltd. (EAST)", shipping line, to which it is associated with the American group Global Transport Organization. Since September last, EAST has been operating a line between Marseilles and Yenbi on the Red Sea, with large capacity ro/ro barges. The door-to-door service throughout Saudi Arabia is ensured by a local company, also formed by EAST, Transarabian Transport Company (TATCO).

In October, CMB was admitted to the "Continental West Africa Conference COWAC", conference of lines linking Western Europe with the Dakar-Mosmedes range. The first sailing of this new line took place in February last, within the framework of a joint service with Société Navale Chargeurs Delmas-Violeux (Faria), and Woermann Linie (Homburg). We may mention here the assistance in personnel the Company is providing to the Société Ivoirienne de Transports Maritimes (SITRAM).

As regards port equipment, CMB has acquired a share in the capital of Société Belgo-Angloise des Ferry-Boats, which operates the Ocean Container Terminal at Zeebrugge, as well as a 50% share in the capital of the new STOCATRA company, which operates the largest bulk terminal at Antwerp.

Finally, an event the importance of which is worth mentioning, is the signing in October, 1976, of an Association Agreement between Compagnie Maritime Zaire and CMB. Beyond the terms of the document which provides for the acquisition by CMZ of a minority share in the capital of Agence Maritime Internationale (AMI) and a new CMB and AMI investment in the increased capital of Agence Maritime Internationale du Zaïre (AMIZA) is thereby expressed the common will of the two partners to strengthen, to their mutual profit, their collaboration in all fields of their respective activities.

For 1976, the benefit for distribution amounts to BF 170,532,411, against BF 171,990,980 for the previous year, after depreciation amounting to BF 979,131,254, against BF 1,297,086,096. The net dividend for the year was fixed at BF 280, against BF 265.

CMB, s.a. St. Katelijnevest 61, B-2000 ANTWERPEN, BELGIUM

MONEY MARKET

Interest rates firmer

Bank of England Minimum Lending Rate 8 per cent. (Since May 13, 1977)

Fixed period interest rates were firmer for the longer periods in the London money market yesterday, although discount houses buying rates for Treasury bills remained fairly steady. The six-month sterling certificate yield rose to 8 1/2-8 3/4 per cent, from 8 1/4 per cent, while the one-year held increased to 9 1/2-9 3/4 per cent, from 9 1/4 per cent. The firmer Treasury bills could reflect nervousness about the future trend in U.S. interest rates, and concern about sterling, following the bout of pressure on the pound in the foreign exchange market last week. This did not carry through to Treasury bill rates however, with discount houses buying rates for three-month bills remaining at 7 1/2 per cent.

Day-to-day credit was expected to be in good supply yesterday, but the market required some assistance from the authorities at the close. The Bank of England bought a small amount of Treasury bills from the discount houses and also a small number of local authority bills.

Banks carried forward surplus balances, and Government disbursements exceeded revenue payments to the Exchequer. On the other hand there was a net taking-up of Treasury bills to finance a rise in the note circulation, plus repayment of advances made by the authorities on Friday.

Discount houses paid 7 1/2 per cent for secured call loans in the market, and ended at 8 1/4 per cent, before closing at 4 1/2 per cent.

In the interbank market overnight loans opened at 7 1/2 per cent, and ended at 8 1/4 per cent, before rising to 7 1/2 per cent, and closing at 4 1/2 per cent.

Mar 30	Shilling Certificates of deposit	Interbank	Local Authority deposits	Local Authority negotiable bills	Finance House Deposits	Company deposits	Discount houses	Treasury bills	Eligible Bank Bills	Prime Trade Bills
Mar 30	7 1/4-7 1/2	7 1/4-7 1/2	7 1/4-7 1/2	7 1/4-7 1/2	7 1/4-7 1/2	7 1/4-7 1/2	7 1/4-7 1/2	7 1/4-7 1/2	7 1/4-7 1/2	7 1/4-7 1/2

THE SCOTTISH INVESTMENT TRUST COMPANY LIMITED

Invested Report for the six months to 30 April 1977 (unaudited)

TOTAL ASSETS	30 April 1977	31 October 1976
	£104,854,000	£92,404,000
NET ASSET VALUE per Ordinary Stock Unit	116.5p	102.2p

Distribution of Assets

Equities: United Kingdom	39.6%	30.6%
United States	35.6%	43.3%
Europe	4.7%	6.5%
Far East	11.0%	10.9%
Others	5%	4%
Total Equities	91.4%	91.9%
Fixed Interest and Cash	8.6%	8.1%

GROSS INCOME	6 months to 30 April 1977	6 months to 5 May 1976
	£2,025,000	£1,738,000
TAXATION	£747,000	£636,000
AVAILABLE for Ordinary Stockholders	£1,024,000	£870,000
DIVIDEND per Ordinary Stock unit	0.90p	0.75p

Interim Dividend will be paid on 25th July 1977 to Stockholders registered 3th June 1977, and will absorb £762,000.

All comparative figures have been adjusted to reflect the merger with The Second Scottish Investment Trust Co. Ltd. on 1st November 1976. Registered Office—6 Albany Place, Edinburgh, EH2 4NL.

From 31st May, Gulf Oil Corporation shares are listed on Swiss Stock Exchanges.

GULF OIL: FINANCIAL STRENGTH DEVELOPING WORLD ENERGY NEEDS

RECENT FINANCIAL HIGHLIGHTS

- Earnings of \$816 million, or \$4.19 per share, in 1976 were the second highest ever.
- Capital and exploration spending for the rest of the decade to exceed \$2,000 million a year, with up to 75 per cent devoted to the worldwide search for energy.
- Long-term portion of the Company's debt at its lowest point in nine years and only 14 per cent of total capitalization.
- Cash and marketable securities trebled since 1971 to nearly \$2,000 million at year-end, \$2,400 million at 31st March, 1977.
- Three increases in dividends since 1974, raising current annual dividend level to \$1.80 per share yielding Gulf shareholders one of the highest returns in the industry.
- First quarter 1977 saw first profitable quarter for minerals ever, although unusually cold weather and lagging chemical demand held total earnings below year-ago level.

PETROLEUM-EXPLORATION AND PRODUCTION

United States

Progress was made during 1976 in arresting the decline in U.S. crude oil production. Natural gas production turned upward in the fourth quarter of 1976 and for the first three months of 1977 averaged three per cent higher than a year earlier.

The Company looks to the rapid development of existing leases, particularly in the Gulf of Mexico, and to new on-shore discoveries in West Texas, in Louisiana and Rocky Mountain states, as well as enhanced recovery techniques. Total drilling and seismic work on-shore and off-shore in the U.S. represents more than nine per cent of all industry exploratory effort.

International

Gulf's most active areas outside North America are in the North Sea, where the Thistle field will come on production later this year. By 1983, the Company expects that their share of North Sea production will be 70,000 barrels per day.

Gulf has substantial natural gas discoveries in the Canadian Arctic and an active exploration programme in 13 overseas countries which will involve expenditures of approximately \$140 million this year. The Company is one of the largest producers in West Africa.

PETROLEUM-REFINING AND MARKETING

United States

Operations became a meaningful contributor to corporate profits in 1976. Operating philosophy emphasizes profits over volume, but Gulf maintained its share of the gasoline market at approximately eight per cent during 1976 in the 29-state area in which it competes.

Canadian Operations

Gulf Canada is Canada's second largest petroleum company and about 68.3 per cent of its ordinary shares are held by Gulf.

International

Europe remains Gulf's most important overseas marketing area with more than 4,000 retail outlets in nine countries. Gasoline accounts for 20 per cent of Gulf's European product mix compared with 14 per cent for the industry as a whole. In Asia, Gulf has joint ventures in Korea, Japan and Taiwan.

Chemicals

Gulf's chemical operations earned \$148 million in 1976, representing 18 per cent of total corporate profits. Worldwide chemical sales passed the one thousand million dollar mark for the first time. A new olefins plant in Texas came on stream in February 1977 and increased annual ethylene capacity to just under three thousand million pounds. A new large polypropylene plant and a high-density polyethylene plant, both in Texas, are expected to become operational in 1978.

1976 FINANCIAL HIGHLIGHTS

	MILLION \$ OF DOLLARS	1976	1975	% INCREASE (Decrease)
Total Revenues	18,403	16,042	15	
Net Income	818	700	17	
Capital and Exploration Expenditures	1,742	1,546	13	
Total Assets	13,449	12,425	8	
Cash and Marketable Securities	1,989	1,837	8	
Long-Term Debt	1,168	1,294	(10)	
Return on: Average Shareholders' Equity	12.2%	11.2%	9	
Average Employed Capital	10.4%	9.6%	8	

PER-SHARE DATA

	\$4-19	\$3-80	16
Net Income	\$4-19	\$3-80	16
Cash Dividends	1-73	1-70	2
Shareholders' Equity	35-62	33-17	7

For a copy of the Gulf Oil Corporation 1976 Annual Report, write to Public Affairs Department, Gulf Oil Company, Eastern Hemisphere, Gulf House, 2 Portman Sq, London W1H 0AN, England.

BHF-BANK presents its 1976 results:

Results for the year ending 31. 12. 76 exceeded the satisfactory profits of the previous year. Capital and reserves were increased to DM 296 million providing a solid basis for our policy of controlled expansion. One significant step in this direction is the opening of a full service branch in New York.

Consolidated Balance Sheet as at 31 December 1976 (in thousand DM)

Assets		Liabilities	
Cash, Bundesbank and postal giro	530,051	Due to credit institutions	4,628,296
Cheques	40,462	Bonds	3,785,289
Bills discounted	598,195	Acceptances and promissory notes	5,431,097
Due from credit institutions	3,664,831	Provisions	71,130
Bonds and debentures	780,267	Other liabilities	431,389
Other securities	230,315	Share capital	100,000
Due from customers	3,551,416	Reserves	192,626
Long-term loans in mortgage banking	4,966,002	Consolidated profit	32,980
Investment in subsidiaries and associated companies	35,714		
Other assets	406,163		
Total assets	14,803,416	Total liabilities	14,803,416
		Endorsement liabilities on bills of exchange in circulation	311,191
		Guarantee and similar liabilities	1,327,759
		Volume of business	16,442,558

The complete Annual Report in German and summarized Annual Reports in English and French will be furnished on request.

Managing Partners: Dr. Hans Georg Gotheiner, Herbert H. Jacobi, Dr. Hanns Christian Schroeder-Hohenwarth, Klaus Subjeltzik, Rüdiger v. Tresckow

BHF-BANK BERLINER HANDELS- UND FRANKFURTER BANK

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MEMBER OF THE INTER-ALPHA GROUP OF BANKS

BIDS AND DEALS

Ashley Industrial sells Reliance stake

Ashley Industrial Trust, a subsidiary of Northern Investment Bankers, has sold its 61.1 per cent stake in Reliance Knitwear for £12m. The shares have been placed with institutions at 33p a share. Ashley has been the majority shareholder since 1973 when it acquired a 60 per cent stake in the company from Mr. David Dianchy and his brother Mr. Raphael Dianchy at 45p a share. Mr. Cyril Choularton, following from the Board of Reliance. Accompanying news of the placing, which was made by Capel-Cure Myers, Reliance's stockbrokers, is a proposed forecast from Reliance of not less than £770,000 pre-tax for the year ending April 30—in line with the statement made by Mr. Ray Newman, chairman of Reliance in February—and a forecast maximum permissible dividend of 4.25p gross for the year. Last year Reliance, which made pre-tax profits of £122,000, paid only a final of 1.54p; the current forecast payment restores the level of dividends paid in 1975 plus a maximum increase of 10 p.c.

Yesterday Reliance's share price rose 2p to 33p on the news. **NATIONWIDE LEISURE** Net assets of Gregory and Hepburn at September 30 were £189,464 and profit before tax for year to that date was £44,029. The acquisition has been financed initially by short-term bank borrowing, but agreement has been reached in principle with Industrial and Commercial Finance Corporation for a loan in the sum of £20,000 bearing interest at 12 per cent and repayable by equal instalments over eight years, commencing May 31, 1980. After repayment of the short-term bank borrowing £80,000 of the loan will be used to reduce existing bank overdrafts.

EUROPEAN FERRIES The offers made on behalf of European Ferries to acquire the Ordinary and Preference capital of English & Caledonian Investment Co. has been declared unconditional. Acceptances of the Ordinary offer have been received in respect of 13,147,382 shares of £. C. representing 91.30 per cent of the issued Ordinary capital. Holders of 331,056 Ordinary shares (included in the total also accepted the 69p cash alternative. Acceptances of the Preference offer have been received in respect of 185,716 Preference shares representing 63.24 per cent of the issued Preference capital. The Ordinary and Preference offers will remain open for

NO PROBES The Secretary of State for Prices and Consumer Protection has decided not to refer the following mergers to the Monopolies and Mergers Commission: R. Elliott and Co. and Newall Machine Tool; Cable Trust and Globe Investment Trust; Johnson and Firth Brown and British Roll-makers Corporation.

RUBEROID Ruberoid has received acceptances in respect of 91.3 per cent of the Vulkanite Preference shares for which the offer was made. The balance will be acquired compulsorily. **LAMSON INDS.** Since the scheme of arrangement between Lamson Industries and Ordinary holders other than

SHARE DISCLOSURES

Allen Harvey and Ross: Calf Nominees have acquired a further 1,000 Ordinary shares giving them a total of 68,500 Ordinary shares. Britanne Assurance Co. holds 100,000 (8.68 per cent) Ordinary shares. W. H. Smith and Son (Hldgs.): Lord Hamilton holds 5,892,848 (40.29 per cent) "B" Ordinary shares as a trustee and 91,887 beneficially. C. H. W. Trounholm holds 1,275,423 (19.16 per cent) "B" Ordinary shares beneficially and M. C. St. John Hornby holds 4,629,456 (33.33 per cent) "B" Ordinary shares (4,500,212 as a trustee and 129,244 beneficially). Mr. P. A. Bennett, chairman, has reduced his holding in "B" Ordinary shares by 12,000. Thymozon Trust: Mr. De Francklin, a director, has bought 25,000 Ordinary shares as Defay Rismastier & Co. Attorney, a director, has bought 100 shares. Careham: Mr. R. A. E. Franklin, a director, has bought 100,000 Cavenham shares at 131p. Associated Electrically Manufacturers: Mr. R. K. Hinton, a director, has disposed of 14,804 Ordinary shares as trustee of the estate of Mrs. B. C. Hinton deceased, has acquired 4,935 Ordinary shares beneficially, and has acquired 700 Ordinary shares and 6,000 "B" Ordinary shares as trustee of the estate of Mrs. M. B. Hinton deceased. Second Brimmond Trust Company: has been advised by Mr. A. G. Tice and Mr. St. J. W. B. Lane, both directors, that their joint non-beneficial interests (with Mrs. G. B. Redford) have been amended by transfer of shares from their creditors account to their trust account. There is an alteration in the total number of shares which they hold. Present holdings are expected to amount to 200,000 Ordinary shares (19.96 per cent) and trust account 122,200 Ordinary shares (8.27 per cent), representing a total of 322,200 Ordinary shares (23.23 per cent) of the 1,384,000 Ordinary shares of the company. Anglo Indonesian Plantations: Cavallia Investment and its subsidiaries has acquired 225,000 shares of the company (14.45 per cent). Grand Metropolitan: Mr. A. J. Tomlin, a director, acquired an option to buy 40,000 Ordinary shares at 80p per share. The cost of the option is 10p and exercisable between May 2, 1977, and May 1, 1984. The Wholesale Fittings Company: The Thymozon Trust has purchased a further 35,000 Ordinary shares, bringing their total holding to 240,000 (8.68 per cent).

T. Cowie improves Colmore offer

T. Cowie has improved his bid for Colmore Investments, rejected by the Colmore Board, or has acceptance in respect of £379,100. Ordinary shares (92.6 per cent). Friends' Provident has purchased no Ordinary shares during the offer period and owned no Preference shares before the making of the offer and has purchased none during the offer period.

HAYS WHARF SELLS TEES STORAGE STAKE FOR £2.2M. Proprietors of Hay's Wharf, which recently tended off a £22.5m. bid from Ocean Transport and Trading, has made a useful profit on the sale of its 50 per cent holding in Tees Storage to Unitank Storage. Sale price for the stake in Tees, which carries on the business of bulk storage of chemicals and oil products, is £2.2m. in cash which compares with a book value for the shares of £260,000. After tax, net attributable in the holding in 1975-76 was £74,000. In addition, a loan of £174,000 made by the company to Tees has been repaid.

JITRA SWITCHES INVESTMENT In order to concentrate the investment in companies operating abroad, particularly Malaysia, Jitra Rubber Plantations (S.L.) (pre-1977) in respect of £283,300 of Preference (10.77 per cent of the Ordinary) of Land and House Property Corporation subject to the offer by Friends' Provident Life Office. In respect of the Preference offer for Land and House, acceptances have been received in respect of 50,885 Preference shares (63 per cent). Both offers have therefore become unconditional and remain open for acceptance until further notice. Friends' Provident intend in due course to compulsorily acquire the balance. Together with the 1,080,200 Ordinary shares in Land and House (10.8 per cent) owned by

HIGHGATE OPTICAL STAKE SOLD TO DUTCH GROUP

Bayfine announces that having received Bank of England permission, it has sold its 73 per cent holding in Highgate Optical and Industrial Company to Continent Beheer B.V., Holland. Highgate Optical will remain quoted on the London Stock Exchange. Content Beheer is the wholly owned Netherlands holding company of Bayfine. Its major subsidiary is present in Coolest Utilization Bureau of the largest Dutch employment agencies. Commenting on the sale, Mr. Ian Rankin, joint chairman of both Bayfine and Highgate Optical, said the sale will give Highgate a stronger base for expansion than it would have had had it been restricted to U.K. financing. The business of Highgate is largely concerned with the importation of optical and electrical goods. Fluctuations in sterling have not made this an easy exercise in recent years.

PONTINS

Pontins has completed the acquisition of the 49 per cent of the capital of Solar Apparatus and Equipment and Spenceheat. Consideration was the issue of a total of 340,000 Ordinary shares. The vendors have agreed to retain the shares for a minimum 12 months.

Notice of Redemption

Massey-Ferguson Nederland N.V.

9 3/4 % Guaranteed Sinking Fund Debentures Due July 1, 1982

NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Fiscal Agency Agreement dated as of July 1, 1975 under which the above described Debentures were issued, Citibank, N.A., as Fiscal Agent, has drawn by lot, for redemption on July 1, 1977, through the operation of the sinking fund provided for in the said Agreement, \$1,000,000 principal amount of Debentures of the said issue of the following distinctive numbers:

COUPON DEBENTURES OF \$1,000 PRINCIPAL AMOUNT OUTSTANDING	
48	2547 4406 6701
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11-22 JULY, 1977
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- Mr O S Morphet: Director, Financial Times
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- Mr O D Oamant: Director, Financial Times
- Mr P R Davies: Director, Financial Times

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Factory and Warehouse

At Exit 28 on the M1
20,000 sq. ft. of industrial buildings with 5 acres of land are available on the M1 at exit 28 in Nottinghamshire.
Phone Ashover (024680) 235 for details.

The Debentures specified above are to be redeemed for Sinking Fund (a) at the W.C.G. Agency Services Department of the Fiscal Agent, 111 Wall St., Bond Window—2nd Floor, in the Borough of Manhattan, The City of New York or (b) subject to any laws or regulations applicable thereto, at the main offices of Citibank, N.A. in London (Citibank House); Citibank (Luxembourg) S.A.; Credito Italiano, Milano; Credito Italiano, Genova; Societa Generale, Firenze; Societa Generale, Amsterdam; Societa Generale, Zurich; Societa Generale, Basel; Credit Suisse, Zurich and Societa Generale de Banque S.A., Brussels. Payment at the offices referred to in (b) above will be made by a United States dollar check drawn on a bank in New York City on July 1, 1977, the date on which they shall become due and payable. UPON PRESENTATION AND SINKING FUND THEREOF, the principal amount of 100 per cent of the principal amount thereof, together with accrued interest to the date fixed for redemption. On and after said redemption date, interest on said Debentures will cease to accrue. The Debentures should be presented at the office set forth in the preceding paragraph on the said date with interest coupon matured subsequent to the redemption date. Coupons due July 1, 1977 should be detached and presented for payment in the usual manner.

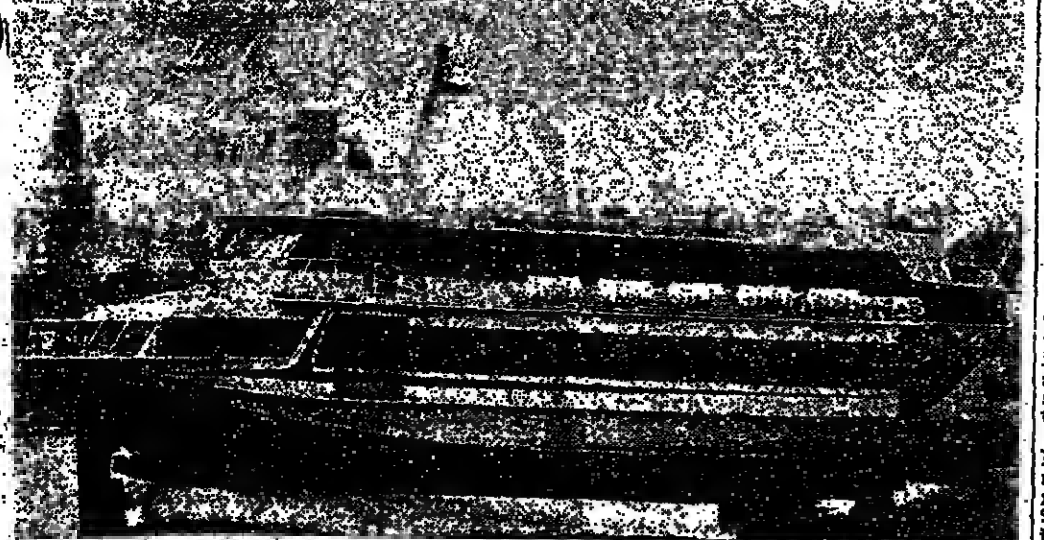
For MASSEY-FERGUSON NEDERLAND N.V. By CITIBANK, N.A. Fiscal Agent

Handwritten signature: J.P. K... 5/31/77

July 15 1977

...more offer

Financial Times Tuesday May 31 1977



EUROPE'S FIRST jumbo service will start tomorrow when Boeing jumbo on charter to Brussels, Belgium. The 200-seater craft, flying Princess (seen right at Greenwich), is timed to link with Belgian rail services to give a London-Brussels journey time of 5 1/2 hours at a cost of £33.50 single including rail fare. There will be one crossing in each direction daily.

Saab will spend £2.5m. to boost car sales in U.K.

BY TERRY OOSWORTH, MOTOR INDUSTRY CORRESPONDENT
SAAB the Swedish car manufacturer is injecting £2.5m. into its U.K. distribution company in an attempt to halt the fall in sales which it has suffered in the last 18 months.
At the same time, Saab (Great Britain) is reorganising its management under a new managing director, Mr. John Smerdon, and looking to expand its dealer network by about 50 outlets from its present 200.
The immediate objective of the reorganisation is to hold the company's registrations in the U.K. at last year's level, with hopes of an increase next year.
Saab's sales last year came to £808 against £780 the year before.
Saab is clearly concerned that the rise in its prices in the last two years has taken its cars into the high quality sector of the market. The launch of the 900 model has reinforced this trend.
According to the company, this means that it has to improve the strength of its dealer network, and place emphasis on developing a better service organisation.
A senior director said yesterday that U.K. dealers had "the will to look after customers properly." Accordingly, Saab was starting a big educational programme with the dealers. "A repeat order is the best advertisement you can have."

Timber terminal planned for Sheerness expansion

BY OUR SHIPPING CORRESPONDENT
A FOREST products terminal is to be established at Sheerness as part of a £2m. development by the Medway Ports Authority.
Work on the terminal, which is the spin-off of a long-term contract with Combi Shipping of Sweden, should begin this summer after completion of car ferry and ro-ro facilities.
The Swedish company is having three special 13,000 tonne ships constructed, and they will serve five European terminals from its own terminals at Gelle, Sweden. Sheerness will be the UK's southern terminal and expected to handle more than 140,000 tonnes a year.
Creation of the Sheerness facilities will involve extending the existing number two berth, reclaiming the whole of the Great Basin and infilling three drydocks. They will be brought up to the existing ground level and surfaced, and the area reclaimed will be used for constructing one, and possibly two, 6,000 square metre sheds, as well as open storage and access areas.
Until the terminal is ready, Combi's new timber-carrying vessels will use number one berth. This will temporarily hamper, but not prevent, container traffic movements from the berth.
The Medway Ports Authority aims to make Sheerness capable of accommodating most kinds of traffic. Work under way includes construction of two floating pontoon berths to provide a ferry terminal for large car-carrying vessels and an additional ro-ro terminal.
Recently Sheerness learned that it was not, after all, to lose of taxes, added Mr. Artist, who is principal education welfare officer for Berkshire.

Employers take teenage truants

By Michael Dixon, Education Correspondent
MANY EMPLOYERS were committing "a crime against society" by illegally engaging older teenagers playing truant from school.
The Chief Education Welfare Officers' Association was told this in Llandudno yesterday by its president, Mr. Harold Artist.
"When asked about this, the employers will plead ignorance, and a very profitable ignorance it is, since they bill the State for the cost of their staff," he said.

home oil HOME OIL COMPANY LIMITED

Notice of Partial Redemption of Debentures

To the Holders of U.S. \$25,000,000 9 1/2% Debentures due July 1st, 1986 of Home Oil Company Limited.
NOTICE IS HEREBY GIVEN that, pursuant to the provisions of the Trust Indenture bearing formal date July 1st, 1976 between Home Oil Company Limited (herein referred to as "Company") and Montreal Trust Company (herein referred to as "Trustee") providing for the creation and issue of Debentures of the Company, U.S. \$1,000,000 principal amount of 9 1/2% Debentures due July 1st, 1986 of the Company bearing the undermentioned distinguishing numbers, namely:

Table with columns for Debenture numbers and amounts. Includes a list of numbers from 00034 to 02535 and their corresponding values.

have been selected by the Trustee by lot in an appropriate and fair manner on the 13th day of May, 1977 for sinking fund purposes only and that such Debentures will therefore be redeemed on the 1st day of July, 1977 in lawful money of the United States of America in the principal amount thereof together with interest accrued thereon upon presentation and surrender of the said Debentures together with all unremitted coupons appertaining thereto failing which the amount of the missing unremitted coupons will be deductible from the principal amount due for payment. Presentation and surrender shall be made at:

- The Canadian Bank of Commerce Trust Company, 2 Exchange Place, New York, New York, 10005, U.S.A.
Canadian Imperial Bank of Commerce, 2 Lombard Street, London, EC3P 3EU, England
Banque Internationale a Luxembourg S.A., 2 Boulevard Royal, Luxembourg, The Grand Duchy of Luxembourg

NOTICE IS ALSO HEREBY GIVEN that in accordance with the terms of the said Trust Indenture all such Debentures called for redemption and not presented and surrendered on July 1st, 1977 shall not be considered as outstanding, interest upon such Debentures shall cease from and after such date and coupons for interest to accrue after such date shall become null and void.

DATED at the City of Calgary, Alberta, Canada, this 18th day of May, 1977.
HOME OIL COMPANY LIMITED
By Montreal Trust Company, Trustee

Advertisement for Tenneco International N.V. featuring a \$100,000,000 offering of 7 3/4% Guaranteed Debentures Due May 15, 1987. Lists various international banks and financial institutions.

INTERNATIONAL FINANCIAL AND COMPANY NEWS

OLIVETTI SPA

Back in the black

BY PAUL BETTS

ROME, May 30.

OLIVETTI SPA, the parent company of the Olivetti group, reported today a profit of just over £1bn. (about \$700,000) as against losses of £8.6bn. the previous year. However, the company said that as in the past year it did not intend to declare a dividend this year.

Company turnover increased by 32.3 per cent. to £501.2bn. on a year-on-year basis, while its accumulated debts at the end of last year totalled £302.1bn.

Last year, the company added £1.2bn. to its reserves and reversion programme.

As regards consolidated group turnover, this increased by 31.9 per cent. during the first four months of the year to £1,126.5bn. The company, however, pointed out that 85.2 per cent. of this increase was due to variations in foreign exchange rates, namely the devaluation of the lira.

Sis. Bruno Visentini, the chairman of Olivetti, also reported that group turnover increased by 27.4 per cent. during the first four months of this year compared in the same period the year before.

Reuter adds: A company spokesman said that group debt rose £200bn. in 1976 to £1,970bn. mainly due to the increase in the lira value of dollar debt.

Average interest charges rose to 13 per cent. from 12.3 per cent., giving a total cost on interest payments of £1,070bn. (£1,4bn.), equivalent to 9.5 per cent. (8.3 per cent.) of turnover.

Total debt was 35.4 per cent. in lire borrowings, 33.5 per cent. in dollars, 18.2 per cent. in European currencies, eight per cent. in Latin American currencies and 4.8 per cent. in other currencies, Olivetti said.

BMW POLICY

Profits take precedence

BY GUY HAWTIN

FRANKFURT, May 30.

BAYERISCHE MOTOREN WERKE, the BMW car and motorcycle maker, is looking forward to its third good year in a row. Demand for its products continues at a high level and the introduction of its new 7-series at the upper end of its market range has already generated enough orders to ensure full production until the end of the year.

Even so, Herr Eberhard von Kuenheim, the company's chief executive, is wary of predicting the year's likely outcome—even though the first four months' figures for 1977 are distinctly encouraging.

At a Press conference in Munich, Herr von Kuenheim announced that BMW's car production rose last year by 24 per cent. to around 275,000 units, compared with the West German automobile industry's average 22 per cent. increase in output.

BMW's production growth could well have been even greater, had it not been for a strike in the BMW's business policy, however, varies greatly from the professional commercial policy of many West German companies.

BMW is not obsessed with the machine that puts rapid sales growth above all else.

Herr von Kuenheim emphasised at the conference that profits take precedence over sales—an attitude that appears to be shared by other West German quality car makers, Daimler-Benz, whose waiting list at the lower end of its range is as much as two years.

When BMW customers have to wait at least a couple of months for the delivery of most

models has no desire to become a mass motor producer. Herr von Kuenheim told the Press conference: "We are not concerned as much with market share as being a profitable business."

Dr. Erich Haiber, the financial director, pointed out that in relation to unit terms, exports rose by 17 per cent. in DM2,26bn. The growth was a result not only of increased overall demand, but also a rise in orders for cars at the upper end of the market range.

In unit terms, exports rose by 30 per cent. to DM4,29bn. while the group sales rose 33 per cent. to DM4,76bn.—a full 85 per cent. up on the 1974 level. Net profits of the parent rose by 70.3 per cent. to DM126m. (£31.03m.) and a dividend increase from 18 to 20 per cent. or DM10 per DM50 nominal share is proposed. This will be a record dividend for BMW.

BMW's parent company turnover last year rose by 30 per cent. to DM4,29bn. while the group sales rose 33 per cent. to DM4,76bn.—a full 85 per cent. up on the 1974 level. Net profits of the parent rose by 70.3 per cent. to DM126m. (£31.03m.) and a dividend increase from 18 to 20 per cent. or DM10 per DM50 nominal share is proposed. This will be a record dividend for BMW.

When reviewing the group, it is easy to overlook its motorcycle manufacturing. But, although this field has been dominated in recent years by the Japanese, BMW's high-quality machines, despite their spectacular prices, have been enjoying steady growth in demand.

When reviewing the group, it is easy to overlook its motorcycle manufacturing. But, although this field has been dominated in recent years by the Japanese, BMW's high-quality machines, despite their spectacular prices, have been enjoying steady growth in demand.

Twists in Abercom's offer for Protea

By Richard Rolfe

JOHANNESBURG, May 30. THE ABERCOM offer for Protea, which is developing into one of the hardest fought in South Africa since the Scorcher Union Corporation's battle in 1974, has taken a number of interesting turns over the past week-end.

The action has hotted up since Abercom's original announcement of its bid in April for 100 Protea shares. On May 4 and with the affidavits for documents scheduled for release in the middle of June, it seems likely to stay on the boil.

With Abercom shares under pressure intermittently since the opening bid, having fallen as low as 195 cents, the cost of the bid has now come up with a 100-cent offer by which Protea shareholders can elect to take 100 10-cent dividend cumulative Participating Non-Redeemable Preference Shares, which are to be issued at a nominal price of 80 cents.

In addition to the 10-cent fixed dividend, which will be paid on a yield of 10 per cent. the participating preference shareholder will also be entitled to a Participating Dividend of 20 per cent. of the amount by which the dividend per Abercom Ordinary Share exceeds 30 cents in any financial year. For the last two years, Abercom has paid 25 cents.

Predictably enough, Protea has dismissed the participating preference shares as time money, indicating that they are worth 70 cents rather than the 100 cents. Protea shares have moved up to 74 cents, while they are well ahead of Abercom's ordinary share alternative, currently worth 64 cents per Protea share with Abercom at 195 cents.

NOTICE OF REDEMPTION To the Holders of

APCO INTERNATIONAL N.V. 6% Convertible Subordinated Bonds Due 1989

(Convertible on and after September 30, 1979, into Common Stock of Apco Oil Corporation)

Conversion right terminates on June 29, 1977

NOTICE IS HEREBY GIVEN that, pursuant to Section 3.01 of the Indenture, dated as of March 15, 1969, as amended by Supplemental Indenture dated as of December 1, 1970, between Apco International N.V., a corporation duly organized and existing under the laws of the Netherlands Antilles, and domiciled in Curaçao, (the "Company") and Marine Midland Bank, formerly Marine Midland Trust Company of New York, a banking organization duly incorporated and existing under the laws of the State of New York, Trustee, the Company has elected to exercise its option to redeem and will redeem on June 30, 1977, all of the Company's 6% Convertible Subordinated Bonds Due 1989 (the "Bonds") then outstanding under the Indenture. At any time prior to the close of business on June 29, 1977, the Bonds are convertible into Common Stock of Apco Oil Corporation, a corporation duly incorporated and existing under the laws of the State of Delaware ("Apco"), at the rate of \$32.39 per share, as further set forth below.

TERMS OF REDEMPTION:

Redemption Date: June 30, 1977.

Redemption Price. The redemption price at which Bonds will be redeemed is equal to the principal amount thereof plus a premium of 2% of such principal amount, together with accrued and unpaid interest thereon to the Redemption Date. Data in the amount of \$1.50 for each \$1,000 principal amount of Bonds, making a total of \$1,062.50 payable on June 30, 1977; for each \$1,000 principal amount Bond, interest on the Bonds will cease to accrue and coupons for such interest will be void on and after the Redemption Date.

Redemption Procedure. The payment of the amount to be received upon redemption will be made by the Company at Marine Midland Bank, at its Corporate Trust Department, 140 Broadway, 12th floor (if hand delivered) or P.O. Box 1749, Church Street Station, New York, New York 10008 (if mailed) or at its London office at 34 Moorgate, London EC2R 6JR, England or at the principal office of S. G. Warburg & Co. Limited, 20 Green Street, London EC2P 2EQ, England, or at the office of Banque Internationale à Luxembourg S.A., Boulevard Royal 2, Luxembourg, upon presentation and surrender of such Bonds, with all coupons appertaining thereto maturing after June 30, 1977, at any time on or after the Redemption Date.

TERMS OF CONVERSION:

Conversion Price. The principal amount of any Bond may be converted at any time prior to the close of business on the business day (at the place where the Bond is delivered for conversion) next preceding the Redemption Date, June 30, 1977, at the option of the holder thereof, into fully paid and non-assessable shares of Apco's Common Stock at a conversion price of \$32.39 per share. Each \$1,000 Bond is, therefore, convertible into 30.87 shares of Apco's Common Stock (calculated to the nearest 1/100 of a share). Cash will be paid in lieu of fractional shares.

Price of Common Stock. The last sale of Apco's Common Stock as reported on the New York Stock Exchange's consolidated transactions reporting system on May 24, 1977 was \$44 1/2 per share. Thus, for example, if a holder of a \$1,000 Bond had converted such Bond at the conversion price of \$32.39 per share of Apco's Common Stock, the aggregate market value of the 30.87 shares of Apco's Common Stock received upon such conversion, based on such last sales price, would have been \$1,351.25. Such value, however, is subject to change depending on changes in the market value of Apco's Common Stock. From January 1, 1977 to May 24, 1977, the reported sales prices for Apco's Common Stock have ranged from a high of \$47 to a low of \$32 1/2 per share. As long as the price of such Common Stock is at least \$34 1/2 per share, the holders of Bonds will receive upon conversion shares of Apco's Common Stock (and cash in lieu of any fractional share) having a market value greater than the amount which would be received upon the surrender of Bonds for redemption.

Adjustments. No fractional shares of Apco's Common Stock will be issued upon the conversion of any Bond or Bonds. If more than one Bond is surrendered for conversion at the same time by the same holder, the number of full shares issuable upon the conversion thereof will be computed on the basis of the aggregate principal amount of Bonds so surrendered. If a conversion results in a fraction of a share, the Company will, in lieu of delivering such fractional share, adjust such fractional interest by payment to the holder of such surrendered Bond or Bonds of an amount in cash equal (computed to the nearest cent) to the current market value of such fractional interest computed on the basis of the last reported sales price regular way of shares of Apco's Common Stock on the New York Stock Exchange prior to the date of conversion.

No payment or adjustment will be made upon any conversion on account of any interest accrued on Bonds delivered for conversion or on account of any dividends on Apco's Common Stock delivered upon such conversion.

Procedure for Conversion. In order to exercise the conversion privilege, the holder of any Bond to be converted must deliver such Bond, with all unmaturing coupons appertaining thereto, to the Company at one of the offices set forth below, accompanied by written notice to the Company that the holder elects to convert such Bond by exchanging it for shares of Apco's Common Stock, and stating therein the name or names of the person or persons (with address) in which the certificate or certificates for shares of Apco's Common Stock which are deliverable on such conversion shall be registered.

The Company will pay any and all documentary stamp or similar taxes payable to the United States of America or any State or political subdivision thereof in respect to the delivery of shares of Apco's Common Stock on conversion of Bonds and any and all documentary stamp or similar taxes payable to the United States of America or any State or political subdivision thereof in respect to the delivery of Bonds to the Company upon conversion of Bonds; provided, however, that the Company will not be required to pay any tax which may be payable in respect of any transfer involved in the delivery of shares of Apco's Common Stock in a name other than that of the owner of the Bonds to be converted and no such delivery shall be made unless and until the person requesting such delivery has paid to the Company the amount of any such tax or has established, to the satisfaction of the Company, that such tax has been paid. The Company does not intend to extend any provision with respect to any taxes imposed by any other government or any subdivision thereof, and no delivery of shares of Apco's Common Stock on conversion of Bonds need be made unless and until the person requesting such delivery has paid to the Company the amount of any such tax imposed in connection with such conversion or has established, to the satisfaction of the Company, that such tax has been paid, whether or not the tax shall be imposed upon or collectible from the Company or any conversion agent.

The method of delivery of Bonds to the Company is at the holders' option and risk but, if by mail, registered or certified mail is suggested:

Marine Midland Bank
By Mail: Corporate Trust Department
P.O. Box 1749
Church Street Station
New York, New York 10008
By Hand: Corporate Trust Department
140 Broadway, 12th Floor
New York, New York

S. G. Warburg & Co. Limited
20 Green Street
London, EC2P 2EQ, England

Banque Internationale à Luxembourg, S.A.
Boulevard Royal 2
Luxembourg

Marine Midland Bank
34 Moorgate
London, EC2R 6JR
England

Effective Date of Conversion. Each conversion of a Bond will be deemed to have been effected immediately prior to the close of business on the date on which the written notice of election to convert is received by the Company and the Bond has been delivered as set forth above, and at such time the rights of the holder of such Bond as such holder will cease and the person or persons in whose name or names any certificate or certificates for shares of Apco's Common Stock are issuable upon conversion will become the holder or holders of record of the shares represented thereby; provided, however, that if the Company does not convert such Bond for any reason, the holder of such Bond will not cease to have rights as a holder of such Bond.

POTENTIAL LIQUIDATION OF APCO:

In the Apco Oil Corporation Annual Report 1976, sent to all holders of record of Apco's Common Stock on April 6, 1977, the letter of the Chairman and the President of Apco contained therein stated in part:

"In February of 1976, the Board of Directors tentatively concluded, after considering the possible liquidating value of the principal assets and the estimated results of the continuing operation of its business, that the liquidation of Apco would be in the best interest of all of its stockholders. The Board instructed management to begin negotiations with potential buyers for the sale of Apco's properties, and to begin preliminary work on the preparation of a plan of liquidation and the related proxy materials.

"Pursuant to these directives, Apco's management conducted discussions with a number of potential buyers during 1976. In December, the Board of Directors reviewed the progress of these discussions. At this meeting, the Board instructed management to pursue discussions with negotiations with all interested parties with a view to the formulation of a plan of liquidation for presentation to the stockholders at the earliest possible date.

"At Apco's Annual Meeting of Stockholders held on May 18, 1977, Apco's President told the stockholders that it was still the opinion of the Board of Directors that a liquidation of Apco was in the best interest of all stockholders. He also announced that Apco hopes to conclude its negotiations in the near future by entering into agreements for the sale of the principal assets of Apco. All such agreements would be conditional upon the approval of a formal plan of liquidation by the stockholders at a meeting which Apco tentatively plans to be in a position to announce prior to mid-year.

"Apco is unable to state at the present time what the possible liquidating value of shares of Apco Common Stock may be, nor can Apco make any estimates of the ranges of such value while negotiations for the sale of the various properties of Apco are still underway.

"The Company suggests that holders of Bonds consult their own tax advisers regarding the tax treatment applicable to them from the conversion of the Bonds into Apco's Common Stock or the redemption of the Bonds.

APCO INTERNATIONAL N.V.

By CURAÇAO CORPORATION COMPANY N.V.
Managing Director

May 31, 1977

Perstorp sees Kr55m. this year

By William Dullforce

STOCKHOLM, May 30. PERSTORP, THE SWEDISH chemicals and plastic concern, increased earnings by 71 per cent. and sales by 25 per cent. during the first eight months of its financial year, ending April 30. As predicted, the second four-month period showed a slowdown in the profit growth, earnings of Kr23m. against Kr20m. (€2.67m.) in the first period.

The four summer months are usually the weakest and the forecast for the year ending August 31 is a pre-tax profit of Kr55m. compared with Kr30m. for 1976. It gives an adjusted earnings per share of Kr24 against Kr16. Turnover is expected to increase from Kr175m. to Kr200m. (€27m.).

During the second four months Perstorp continued to reinforce its international marketing position by takeovers. It made its biggest purchase so far when it bought the penterytanol manufacturing plant of Pan American Chemicals in Toledo, Ohio. The Swedish concern will invest Kr25m. over the next two years in this factory, which will have an annual capacity of 15,000 tons on completion.

Perstorp's Persora development company bought Kr6m. Synthecolor, in Paris, which included a half share in Synthecolor International, Belgium, expanding its stake in the field of additives for the plastic processing industry.

Persora Water Systems, the British company bought from BXL the Union Carbide subsidiary, last year, has developed better than anticipated, according to the eight-month report, and has launched a new range of products.

The concern's liquid assets, which amounted to Kr55m. at the beginning of the year, have declined somewhat, but are still regarded as sufficient.

BANKS IN SAUDI ARABIA

A one-year deadline

BY ROD NEWMAN IN JEDDAH AND ANTHONY McDERMOTT IN LONDON

THE SAUDI ARABIAN government yesterday decreed for the first time a deadline of one year for the construction of a new foreign bank in the Kingdom. Following a cabinet decision on Sunday, it was announced that all foreign banks had to sell a majority of their ownership to Saudi nationals.

The decree, which has still to be approved by King Khalid, coincided with the approval of the draft construction of a new Saudi-French bank to be formed by converting the operations of the Banque de l'Indochine et de Suez into a Saudi joint-stock company, with Saudi shareholders taking 80 per cent.

Since 1976, the Saudi Arabia Monetary Agency (SAMA) which acts as a central bank, has been increasing the pressure for Saudi majority participation. That year the National Bank of Pakistan became Bank al-Jazira with a 60 per cent Saudi holding. However, yesterday's decree reflects increasing nervousness with which the conservative Saudi monetary authorities have been watching the closure of two banks in the UAE as a result of credit difficulties.

Dr. Abdul Aziz Khwaiter, the temporary Information Minister, said on the official radio yesterday that "This is another step in the government programme to transform all foreign banks working in the Kingdom into Saudi banks with Saudi citizens holding a majority of the shares, under the system applied to Saudi banks and Saudi shareholding companies." Several

other banks have been negotiating 60-40 arrangements with the Saudi government, and it is believed that only Citibank is resisting SAMA's directives. One banking source believed that the transformation of foreign banks into local companies would, in fact, expand business because they would then be able to increase the number of branches outside the three main cities to which they are confined.

Two foreign banks in Saudi Arabia—the Algemene Bank Nederland and the National Bank of Pakistan—have already come under Saudi control voluntarily, but at least seven other foreign banks have yet to make the change-over. These include the

British Bank of the Middle East, a subsidiary of the Hong Kong Shanghai group, which has had a senior executive working for some months exclusively on the details of a proposed Anglo-Saudi bank, and which is understood to have been haggling over likely candidates for the new bank's board of directors. Other foreign banks which must come under Saudi control within the stipulated one-year period—or simply cease operating in the Kingdom—include the First National City Bank, Banque de Calcutta, Banque du Liban et d'Outre Mer, the Arab Bank (of Jordan), Bank Mellé of Iran and the United Bank of Karachi.

Belgian investment

BY DAVID BUCHAN

BRUSSELS, May 30.

THE PROGRAMME of the new four-party Belgian coalition government gives as one of its top priorities greater public investment to the economy.

This is largely a concession by caretaker Premier Leo Tindemans to his new Socialist partners. But members of the outgoing Tindemans Government have taken great exception to suggestions that foreign investors are pulling out of Belgium and in particular to a recent U.S. Chamber of Commerce study of American companies.

The present Secretary of State

for Flemish Economic Affairs, Mr. Marc Eyskens, has hit out at the survey—which encompassed 330 U.S. companies in Belgium and showed that because of high wage costs they only planned to invest \$1.5bn. (about £1bn.) in the country in the next five years, compared with \$1.5bn. in the preceding five years.

Admitting that the "time is past when American Alice went around the Belgian Wonderland generously pouring out investments," Mr. Eyskens claimed that the survey did not differentiate between the good industrial climate of Flanders in the north and the depressed French-speaking Walloonia in the south.

Latin America fund plan

By Hugh O'Shaughnessy

A SPECIAL guarantee fund to assist the development of Latin American countries to the capital markets of the developed world which would be administered by the Inter-American Development Bank was suggested yesterday by Sr. Antonio Ortiz Mena, president of the Bank.

Sr. Ortiz Mena was speaking at the inaugural session of the meeting of the Bank's board of governors held in Guatemala City. The fund was first suggested by the Bank to the International Monetary Fund and the World Bank in 1976.

The Bank's president called for a three-point plan to be agreed between the developed countries and the countries of Latin America with the aim of consolidating Latin American growth and strengthening the world economy.

It should, he said, include agreement on commodities to cover regular supply at stable prices remunerative for the producers.

Additionally it should ensure markets in the industrial countries for Latin American manufacturers which because of their price advantages would stabilize prices at competitive levels. Lastly the strategy would seek to encourage public and private transfers of capital to the region.

Sr. Ortiz Mena reported that the Bank was widening its concept of supplementary financing and seeking to interest not only private banks in co-operative ventures with the IDB but also insurance companies, pension funds and trust funds to such arrangements.

HAVANA INTERNATIONAL BANK LIMITED LONDON

(A fully-owned subsidiary of Banco Nacional de Cuba, La Habana)

At a meeting of the shareholders of this above Bank in La Habana, Cuba on 12th May, 1977, it was resolved with effect from the 30th May, 1977, to increase the share capital of

HAVANA INTERNATIONAL BANK LIMITED, LONDON

Authorized	£2,000,000	Paid Up	£2,000,000
Previous Capital	£3,000,000		
New Capital	£4,000,000		£5,000,000

Due to the expansion of the Bank, larger premises have been acquired at

20 IRONMONGER LANE, LONDON, E.C.2

and these will be officially opened in January, 1978.

The Bank is actively engaged in various types of Eurocurrency transactions and offers a comprehensive banking service to all customers.

Market Buildings,
20, Ironmonger Lane,
London EC2R 7EE

JAPANESE COMPANIES

Ataka makes pre-merger Y130bn. loss for 1976-77

BY YOKO SHIBATA

TOKYO, May 30.

Ataka, the troubled trading firm, has reported a loss of Y130 billion for the fiscal year ended March. This was the largest element of accounts of Ataka, which is preparing to merge with Itoh and Co. at the end of October. The company's cumulative losses have risen to Y130 billion, and its excess liabilities stand at Y116 billion. Ataka's losses seem to give a fair picture of the deficit of its subsidiaries and affiliated companies for the merger with ITOH. During the fiscal year, sales fell by 25.5 per cent to Y1,490 billion. Since Ataka began selling down transactions on unprofitable lines such as textiles, paper-pulp and timber, which will be liquidated as of July 1, unloading its inventory of loss-making lines incurred a loss of Y12.5 billion, which would account of Y3.5 billion operating account.

Under recurring items the company managed to confine its loss to Y31.2 billion, in a previous account. The biggest net losses are on non-recurring items. The company filed a special loss of Y73.9 billion, making special provisions for reserves of depreciation for possible loss of affiliated companies. The rest of reserves for possible losses in its securities portfolio at Y6.5 billion.

Ataka is Japan's ninth largest trading firm and got into trouble in 1975 after severe losses on its Canadian Newfoundland Refinery (RC). Ataka's main bank, Dai-ichi Kangyo Bank, has been working to shore up Ataka, acting as intermediary in arranging for Itoh's absorption of Ataka. A merger committee led by Sumitomo and Kyowa Bank have been working out details of the merger terms. According to the merger programme, Ataka's trading rights, worth about Y70 billion, of annual sales, its 1,000 employees and 45 affiliated firms will be taken over by Dai-ichi Kangyo Bank, its textile, fishery and products divisions are to be transferred to Itohan (a textile) as of July 1. Itoh refused to take over Y of Ataka's bad credits and assets, which it feared would hit Y300 billion by the end of this year. About a third of the bad credits and assets is to be liquidated and controlled by A.C. Industry, a special company planned under bank guidance as far as Ataka's other bad debts are concerned. 16 Japanese bankers agreed to write them off

in the first half ending September. Ataka's trading rights were initially valued at Y90 billion. In the last element of accounts of Ataka, which is preparing to merge with Itoh and Co. at the end of October, the company's cumulative losses have risen to Y130 billion, and its excess liabilities stand at Y116 billion. Ataka's losses seem to give a fair picture of the deficit of its subsidiaries and affiliated companies for the merger with ITOH. During the fiscal year, sales fell by 25.5 per cent to Y1,490 billion. Since Ataka began selling down transactions on unprofitable lines such as textiles, paper-pulp and timber, which will be liquidated as of July 1, unloading its inventory of loss-making lines incurred a loss of Y12.5 billion, which would account of Y3.5 billion operating account.

The bank's internal reserves are also estimated at Y40 billion and the rest will come off of utilising unrealised profits on stocks and securities. The bank's internal reserves are also estimated at Y40 billion and the rest will come off of utilising unrealised profits on stocks and securities. The bank's internal reserves are also estimated at Y40 billion and the rest will come off of utilising unrealised profits on stocks and securities.

Upturn for electricals

JAPAN'S MAJOR heavy electrical companies, Hitachi, Toshiba and Mitsubishi Electric, showed significant gains in profits for the fiscal year ended March reports Yoko Shibata. In terms of recurring profits for the year, Hitachi headed the list with Y45 billion (up 53.3 per cent). Toshiba reported Y23 billion (up 96.6 per cent) and Mitsubishi Electric Y14.5 billion (up 2.3 fold). However, most of the gains were due to good export performances in the first half of the year.

AUSTRALIAN COMPANIES Asbestos cement merger planned

BY JAMES FORTIN

SYDNEY, May 30.

CSR MAJOR SUGAR, mining, building products and pastoral group, proposes to sell its interests in Australia's largest asbestos group, James Hardie Asbestos. The move has interesting trade practice implications because it would make Hardie the only manufacturer of consequence in asbestos building products.

But Hardie and CSR claim that the deal—described as a merger—would serve the interests of the consumer and the building industry in general. Hardie has already submitted the details to the Trade Practices Commission seeking a clearance for the purchase. CSR and Hardie maintain the market is not confined to asbestos cement but includes alternative materials, to which asbestos cement has lost ground. It has applied under the terms of the existing Trade and Practices Act, although legislation to amend the Act is while Property group Development Undertakings raised its offer price for the plastics company. Advance Industries.

Stelux in transition

BY DANIEL NELSON

HONG KONG, May 30.

THE UPHEAVALS in the world watch industry have hit Stelux in its major markets (and Manufacturing, which today announced that group net operating profit for the nine months to December 31 were down as the equivalent period for the previous year, although group sales had reached a record high. The directors have recommended an interim dividend of 10 cents, down from 18, in order to conserve resources for manufacturing and marketing expansion.

Falling prices The fall in profits was attributed to falling prices for solid state and conventional watches and higher manufacturing and marketing costs. A company source pointed out that Stelux was now an integrated rather than a component group and that "the cost of effecting the transition has been higher than we expected." A considerable amount of working capital has been tied up in extending credit to dealers.

In the current state of the industry, disrupted by rapidly changing fashions and technology, aggressive new marketing techniques by-passing traditional jewellers are cutting profits. Faced with the dilemma of what to do with large inventories, Stelux apparently decided to move stocks as rapidly as was possible without causing disruption in its major markets (and Manufacturing, which today announced that group net operating profit for the nine months to December 31 were down as the equivalent period for the previous year, although group sales had reached a record high. The directors have recommended an interim dividend of 10 cents, down from 18, in order to conserve resources for manufacturing and marketing expansion.

Acquisitions

The nine months' profit fall is the first hiccup in Stelux's rapid rise from its origins as a watch strap producer 14 years ago. It went public in 1972 and has been steadily acquiring interests since—the share capital of its British distributor in 1973, the SEC, a 70 per cent interest in Swiss watch case manufacturer Jeen Vellon and, with a new issue of 3.8m. shares, watch dial manufacturer Metalmatic. Unilux, a design, technical services and sales outlet in Switzerland; full control of the electronic watchmakers Colex; and a 26 per cent interest in Bulova—last year—prompting Fortune magazine to describe it as "perhaps the most powerful and progressive force in the international watch industry."

Builders' sales lack lustre

JAPAN'S top three construction companies have turned in lack lustre results for the second year running and are not counting on much improvement until 1978, reports Douglas Ramsey. Taisei Corporation, Shimizu Construction and Obayashi-Gumi all posted insignificant sales increases (respectively up 0.1 per cent, 3.1 per cent and 0.3 per cent), thus, the damage indicated by recession, which resulted in severe drops in sales in fiscal 1975, has persisted throughout 1976. On profits account the construction companies did rather worse than the year before. Although Shimizu managed to increase its net profit by 1.1 per cent to Yen 10.5bn, the two other companies did not fare as well. At Taisei, profits after tax for the year to March amounted to Yen 10.7bn, down 17.8 per cent, partly because its longer order book which let the company put off the worst effects of recession until 1976.

CAPITAL MARKETS

A wider crack in the door

BY JEFFREY BROWN

DRIVING TO continued world pressure for greater internationalisation of the Yen, the Japanese monetary authorities have opened the door to foreign investors another inch or two. The Bank of Japan is to allow overseas borrowers to raise longer term loans on the Japanese capital market than has hitherto been the case. No actual declines have as yet been laid out but the Banque Paribas Commerce Exterior is to go ahead next month with an issue of Y20bn. bonds. To now foreign capital raisings have been restricted to amounts of between Y10bn. and

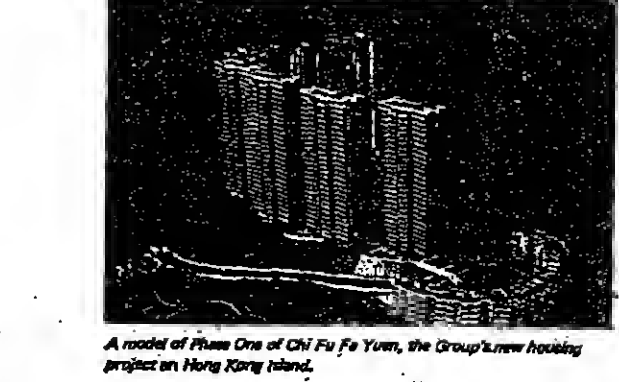
Y12bn.—with the exception of national borrowers. But even at this level the Bank of Japan has always kept a tight rein. Recently Japanese internal demand for funds has been low, with, for example, domestic industry peddling softly on capital projects. But it is equally clear that overseas demands for greater yen financing flexibility are beginning to have some impact. Foreign borrowers have long cast envious eyes at the Japanese capital market. Rates of inflation in Japan compare favourably with the most price efficient of the country's trade competitors. And the Yen is one of the strongest currencies (it has appreciated usefully against the U.S. dollar over the past 18 months). At the same time interest rates in Tokyo are low in relation to those in major capital markets elsewhere in the world.

Extracts from the 1976 Statement to Shareholders by Mr D.K. Newbigging, Chairman, The Hongkong Land Company Ltd

“Excellent future prospects.”

Good Year for the Group 1976 was a good year for Hong Kong, for the commercial sector generally, and for your Group. We have proceeded with our development plans, and the Group's earnings have again increased enabling the recommendation of a record dividend for 1976. In the past year we have completed several major projects and spread the commencement of others. The Group will thus continue to have a steady flow of new developments coming to fruition which should ensure a continued growth of earnings with excellent future prospects for The Hongkong Land Group.

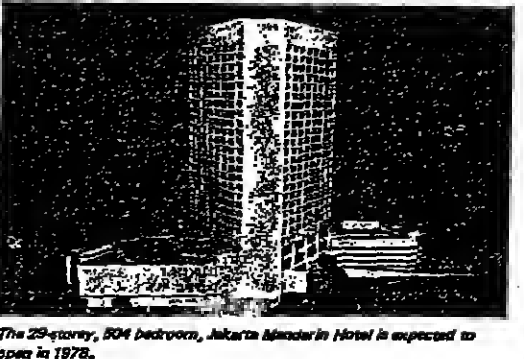
In Jakarta, Indonesia, a joint venture 15-storey office building, (30% owned), was completed in late 1976. In Kuala Lumpur, Malaysia, work commenced in May 1976 on a 19-storey office building of some 180,000 sq. ft. (30% owned). This building is expected to be completed by late 1978. Macquarie House in Sydney, Australia (80% owned), the 20-storey building containing 100,000 sq. ft. of office space, remains fully let.



A road of Phase One of Chi Fu Fu Yuen, the Group's new housing project on Hong Kong Island.

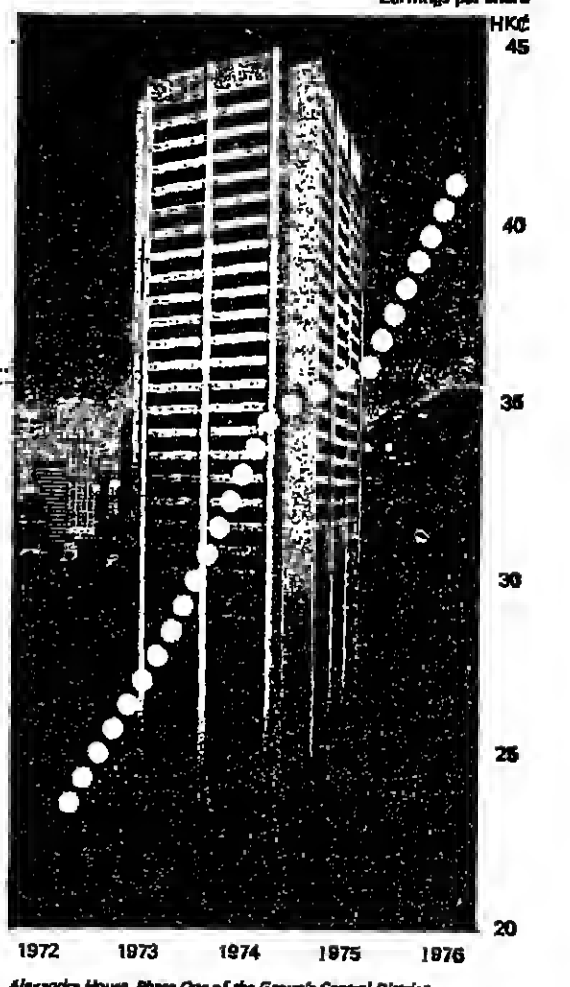
Residential Properties The Group's portfolio of prime residential properties principally in the Mid-Levels area in Hong Kong's Mid-Levels, has remained fully let. Brankome, the 26-storey luxury apartment building of 94 units was completed in mid 1976, and was immediately fully let. In addition, work will shortly commence on the construction of new twin towers comprising 134 units on the site of Tregurra Mansions. This development is expected to be completed by late 1978. Construction of the joint venture development of a residential scheme of 37 luxury units on a prime site in Stanley by Simia Enterprises Limited (50% owned) started in late 1976 and should be completed by mid 1978.

Property Trading In September, 1976 we sold four Hong Kong residential developments for a total of \$28.9 million, thus releasing funds for investment in other areas, in particular the Central District. In September, Government approval was received for the development of Chi Fu Fu Yuen, the Group's \$75 million housing project in Pokfulam on Hong Kong Island. The project—a new township of some 17.5 acres—will provide 2,700,000 sq. ft. of residential accommodation in the form of 4,350 flats for middle income purchasers. The marketing programme of Chi Fu Fu Yuen was launched in December, and met a response of such proportions that all nine blocks comprising the first phase were immediately subscribed. Construction of the first phase should be completed by mid 1978, and the development is scheduled for completion in stages over the next six to eight years.



The 25-storey, 504 room, Jakarta Mandarin Hotel is expected to open in 1978.

Phase Two and Three of the Scheme call for the construction of two 45-storey twin office towers which, with Alexandra House will form three sides of a 20,000 sq. ft. pedestrian plaza, providing a new focal point for Central District. Phase Two (Glover Tower) will be constructed on the site of Glover Building which is the Windsor House site as well as that of Lane Crawford House, which has been acquired by Hongkong Land in exchange for Jardine House and 14/15 Paddar Street, will provide the area for the central shopping plaza. Final completion of Glover Tower and the plaza is scheduled for early 1980, and will make available a total of some 621,000 sq. ft. of lettable space—an increase of 72% compared with the buildings currently occupying the same site. Our own system of pedestrian foot-bridges will, in due course, create a link between our seven major Central District properties. In September, we purchased the P & O Building in Hong Kong, which added 100,000 sq. ft. of net lettable office accommodation and 4,000 sq. ft. of shopping space to our Central District portfolio. Work will commence in April 1977 on the construction of a major commercial building of some 600,000 sq. ft. in Causeway Bay, Hong Kong. Agreement has already been reached with Government for the Inland Revenue Department to lease over 200,000 sq. ft. of the new building, Phase One of which is expected to be completed in late 1978, with final completion by mid 1979.



Earnings per share HK\$

Alexandra House, Phase One of the Group's Central District Redevelopment Scheme, now completed, fully let and contributing to earnings. Maxim's Caterers Limited (21% owned) once again returned a record result based on substantially increased turnover. This is attributable to the growth of business in existing outlets, and to further expansion by the opening of eleven new restaurants and fast food outlets. Food Distribution The Group's major food distribution interests, accounting for some 20% of the Group's profit, are maintained through subsidiaries operating within the Dairy Farm Group, which incorporates Fitzpatrick's. During 1976, trading was at a satisfactory level, with a continued growth pattern based on increased turnover and the opening of new retail outlets. A further two shopping centres will open soon, bringing the total number of supermarkets and shopping centres operating in Hong Kong to 22. Aircraft catering activities have expanded throughout the region, and in Hong Kong the new aircraft catering building has recently been completed at a cost of some \$2.8 million. The main Dairy Lane store in Windsor House will be re-established in Marina House later this year.

Future Prospects The completion of Alexandra House, Brankome, the Oriental Hotel's new wing and the Marina Mandarin Hotel, together with the acquisition of the P & O Building and an increased investment in the Excelsior Hotel, will ensure growth in future profits. The continuation of this pattern over the next few years should also be assured by the development of the remaining two phases of the Central District Redevelopment Scheme, the new Windsor House in Causeway Bay, the redevelopment of Tregurra Mansions, the Jakarta Mandarin Hotel, and Chi Fu Fu Yuen in Pokfulam. Looking to 1977, your Directors believe that earnings will show a further improvement, and we look forward with confidence to the future.

Table with 2 columns: 1976 and 1975. Rows include Group profit after tax, Dividends, Shareholders' funds, Earnings per share, Dividends per share, and Net assets per share.

D.K. Newbigging Chairman Hong Kong 30 March 1977

SELECTED EURODOLLAR BOND PRICES MID-DAY INDICATIONS

Table of Eurodollar bond prices with columns for currency, denomination, and price.

CONVERTIBLES

Table of convertible bond prices with columns for company name and price.

Advertisement for THE TAIYO KOBE BANK, LTD. LONDON, featuring a logo and text about floating rate London-Dollar Negotiable Certificates of Deposit.

Table of convertible bond prices with columns for company name and price.

Table of convertible bond prices with columns for company name and price.

tea market settling down again

Our Commodities Staff
PRICES are new levelling and there should be no erratic moves either up or down for the next month or two...

U.S. may use surplus tin for buffer stock fund

By JOHN EDWARDS, COMMODITIES EDITOR
THE CARTER Administration since this is based on the market "floor" price at the time and in any event few countries apart from the U.S. have any surplus tin to spare...

Further decline in coffee

By Our Commodities Staff
COFFEE PRICES on the London terminal market ended at their lowest level for three weeks yesterday despite rallying in late trading...

U.K. MARKETING BOARDS Anti-cartel farmers win legal backing

By JOHN CHERRINGTON, AGRICULTURE CORRESPONDENT
IN A JUDGMENT handed down last week almost ignored on this side of the Channel, the European Court ruled that the Dutch Government had, in 1974, own member farmers. There are a number of farmers well placed to supply the liquid market situation...

Japan dominates wool auctions

SYDNEY, May 30. CES AT Australian wool sales this week will depend on the strength of overseas demand, according to National Council of Wool Brokers...

Steel lobby

At the same time a contribution by the U.S. may well set a precedent for other countries, who have so far refused to make a voluntary donation to the common buffer stock...

EEC extends Soviet fish deal

By ROBIN REEVES
LICENCES allowing a limited number of Soviet, East German and Polish trawlers to fish inside the EEC's new 200-mile limits are to be extended for a further month...

Kind words

The implications of this ruling are bound to bring into question the survival of the Milk Marketing Boards in the United Kingdom and of the other Boards as well...

Transition

The Wool Marketing Board is another monopoly Board, elected like the others by a two-thirds majority of wool producers. It has not been seriously challenged lately by the chairman and managing director of Axminster Carpets...

PORT PROTEST

More than 500 East Anglian pig farmers plan to march on the local headquarters of Danes, the Danish bacon firm, at Attford, Norfolk, on Friday, to protest against heavily subsidised imports...

Sugar prices down again on pact collapse

By Our Commodities Staff
THE EFFECTS of the collapse of the International Sugar Agreement talks last week are still being felt in the world market for the October period...

SUGAR

THE FAILURE of the Geneva negotiations was largely blamed for this continued fall. But, in addition, while the world market for the October period...

Producers seek big rubber stockpile

NATURAL RUBBER producing countries will press at next month's UNCTAD commodity talks for the establishment of a stockpile of more than 350,000 tonnes...

COMMODITY MARKET REPORTS AND PRICES

Table with multiple columns listing commodity prices for various metals, grains, and other goods. Includes sub-sections for BASE METALS, L.G. Index, C.L.A. MANAGEMENT APPOINTMENTS, FLOOR TRADER, ACCOUNTS EXECUTIVE, and TRAINER TRADERS.

Advertisement for a new look at the international sugar market, highlighting price fluctuations and international recommendations.

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STOCK EXCHANGE REPORT

Buyers reluctant and index recedes 5.3 more to 447.5
Gilts fall to £1 1/2 - Gold Mines index jumps 8.4 to 118.9

Account Dealing Dates
First Declared Last Account
Dealing Date May 9 May 19 May 23
Dealing Date May 10 May 20 May 24
Dealing Date May 11 May 21 May 25

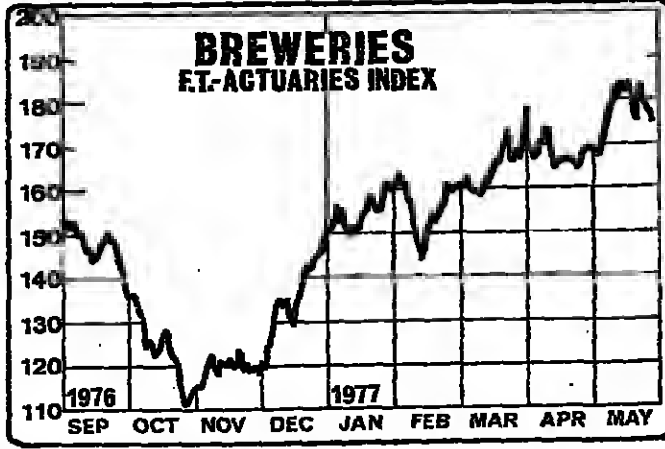
114 per cent, 1991, is to be issued at a price only slightly payable on application. Prior to the news, sentiment had continued to reflect the mood of dejection which came into being on Wednesday of last week and, with fresh offering again finding the market unwelcoming, mediums and longs had fallen another 1/2. When trading resumed after the usual recess, a further 1/2 point was lost and a little more in some cases before the market was trimmed slightly late in the evening. The variable coupon short was the outstanding event at the short end of the market, with the 10 1/2 per cent good business built up after the Government broker had rejected low bids and sold a small quantity of stock at 85 following which he withdrew and eventually traded more freely at 98. Existing issues were not overshadowed but showed volatility, being at various intervals 1/2 higher and 1/2 lower, before ending with little alteration on the day.

Capet and Leonard cheapened a penny to 50p and, still awaiting news of the property revaluation, W. W. Ball sold 3p to 67p. Hickson and Welch hardened 3 to 50p; the interim figures are due on Thursday.
Burton resilient
Burton moved against the dull market in Foods, losing 10 20p for a two-day loss of 1 1/2. Lyons eased 3 to 75p, while Fitch Lovell, 55p, and Unigate, 46p, both closed 2 cheaper. Elshes shed 4 to 10p as did Clifford's Dairies A, to 34p. On the bid front, Fox's Discuits shed 3 to 143p in sympathy with a modest improvement in Caravans from the lowest, closing 4 off at 180p, after 17p, while Percy Bliton was the same amount easier at 152p. The appointments of Robert McBride 3 to the good at 220p.

Associated Dairies remained a dull market in Foods, losing 10 20p for a two-day loss of 1 1/2. Lyons eased 3 to 75p, while Fitch Lovell, 55p, and Unigate, 46p, both closed 2 cheaper. Elshes shed 4 to 10p as did Clifford's Dairies A, to 34p. On the bid front, Fox's Discuits shed 3 to 143p in sympathy with a modest improvement in Caravans from the lowest, closing 4 off at 180p, after 17p, while Percy Bliton was the same amount easier at 152p. The appointments of Robert McBride 3 to the good at 220p.

Shell continued to give ground while following the general pattern of the oil market, closing 6 off at 530p, after 523p, but many other Oils resisted the trend. British Petroleum, for instance, drifted easier to 94p before recovering to the previous level of 92p, despite the absence of U.S. inquiries; the New York market was closed for the holiday. Also unchanged were Royal Dutch, at 248 1/2, and Esso, at 115 1/2. Confirmation of the latest North Sea oil find made little impression on the speculative market, which closed 1/2 higher at 118 1/2 - its best level since April 18 and its biggest one-day rise since November 10. The index has improved 16.8 over the past four trading days.
The gold-mining producers were the most favoured stocks, with Randfontein 111 better at 244 1/2 - a rise of 54 over the last three trading days - while Anglo-African advanced 33 to 89 1/2. Lower priced gold-miners, to show considerable gains included Hawthorn, 32 better at 33 1/2, and Stilonite, 9 to the good at 175p. Australian uranium, however, fell 1 1/2 to 175p, with Fantasia, 75 lower at 950p and Ocean Resources 2 off at 25p, reflecting overnight domestic

modest improvements in Caravans from the lowest, closing 4 off at 180p, after 17p, while Percy Bliton was the same amount easier at 152p. The appointments of Robert McBride 3 to the good at 220p.



FINANCIAL TIMES STOCK INDICES
Table with columns for various indices: Government Secs, Industrial Ordinary, Gold Mines, etc. and rows for May 29, May 30, May 31, and Year Ago.

HIGHS AND LOWS S.E. ACTIVITY
Table with columns for High, Low, and S.E. Activity for various stock groups.

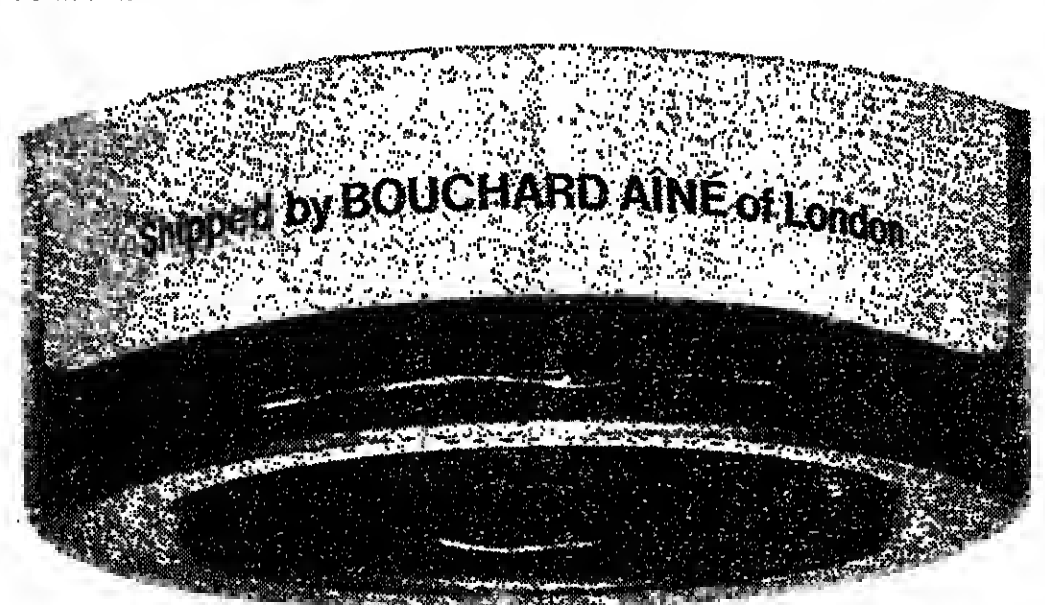
London-based Financials, however, were only a few pence harder, sentiment being adverse. The FT 100 index closed at 447.5, down 5.3 from 452.8 on Friday. The FT 100 index closed at 447.5, down 5.3 from 452.8 on Friday.

NEW HIGHS AND LOWS FOR 1977
Table listing new highs and lows for various stock groups in 1977.

OPTIONS TRADED
Table listing options traded for various stock groups.

RISES AND FALLS YESTERDAY
Table listing rises and falls for various stock groups yesterday.

Gilts still dejected
A leading jobber summed up the day's proceedings to Gilts with the remarks that there was no compulsion to buy either before or after the unexpected 8.20 p.m. announcement of the new partly-paid long tap issue; £800m. of Treasury



What's in a name?
A name that's recognised can inspire awe, envy or, in this case, confidence. It's a name with a reputation for accepting only the best, and maintaining the highest standards. An assurance for the wine-buyer that his choice has been expertly selected and carefully shipped.

A very good wine reasonably priced. Distinguishing it from the ranks of all the rest. In other words, a name such as ours can sometimes be all the guarantee you need. Because when it says Bouchard Aine on the label, it says a lot for the wine.

read the small print first
Bouchard Aine
Burgundy specialists and shippers of fine wine
13 ECCLESTON STREET, LONDON SW1
Aine denoting the eldest son of the family

RECENT ISSUES
EQUITIES

Table of recent issues in equities, including company names and prices.

FIXED INTEREST STOCKS

Table of fixed interest stocks, including company names and prices.

"RIGHTS" OFFERS

Table of rights offers, including company names and prices.

ACTIVE STOCKS

Table of active stocks, including company names and prices.

FT-ACTUARIES SHARE INDICES

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

EQUITY GROUPS

Table of equity groups and sub-sections, including indices and prices.

FIXED INTEREST PRICE INDICES

Table of fixed interest price indices, including British Government and other indices.